The Builder.

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Some Points in the Law of Light.

A GOOD deal of interest has recently been aroused among lawyers by an important point in regard to the law of light, namely, the right to what has been called an extraordinary amount of light.

The subject is one of equal importance to many besides lawyers, and we have from time to time noted the decisions on this point. It introduces a considerable conflict of interests. On the one hand those who desire to erect new and higher buildings are already hampered by the law of light in its ordinary form. When it confers what has been called extraordinary rights, the position of the owner of the servient tenement becomes still more difficult. It was brought into special prominence in 1900 by the decision of Mr. Justice Wright in the case of Warren *v.* Brown, in which that judge held that as long as the owner of a dominant tenement had sufficient light for ordinary purposes, he was not entitled to bring an action for the infringement of his right. This decision has recently been reversed by the Court of Appeal. Subsequently came the case of the Home and Colonial Stores *v.* Colls, in which Mr. Justice Joyce followed the decision of Mr. Justice Wright. Here again the Court of Appeal have come to a different conclusion to the judge of first instance, being guided thereto by the previous decision of another branch of the Appeal in Warren *v.* Brown.

It is easy to see how the difficulty and the conflict of judicial opinion has arisen. It has been decided that there must be a substantial interference with the supply of light, so as to render the dominant tenement substantially less suitable than it was before the interference for the purposes of business or habitation. But whereas in Warren *v.* Brown an unusual degree of light was required for the working of the special machinery for the manufacture of hosiery, which was erected in one of the rooms in the dominant tenement, some judges have held that though there was a substantial interference with the light, yet the dominant tenement could not be regarded as substantially injured, since for the purposes of nine out of ten men it would be as useful as before the interference with the light. The Court of Appeal in the two latest decisions have, however, regarded this view as faulty, because it infringes the basis of the right to protection from the Courts, namely, that such protection will be given when there has been a substantial interference with the light. In other words, the use of the light must not be regarded, but only the supply; that is to say so long as there has been a substantial diminution, that fact is sufficient. It matters not whether the light is to be used for ordinary domestic purposes or for the working of the most delicate machine. This view of the law certainly simplifies matters, but it appears not altogether to be in accord with the legal view that there must be a substantial diminution in the usefulness of the dominant tenement. It certainly also produces remarkable practical results of a very conflicting kind.

Thus there may be two buildings side by side, with rights to light over the opposite side of the street. In one a mere ordinary business may be carried on, in the other one which needs an unusual degree of light. Two separate buildings may be erected opposite these two tenements. In the one case the owner of the dominant tenement, though his light is interfered with, is practically little inconvenienced; in the other the tenant is unable, in consequence of the opposite building, to carry on his work. To a certain extent this was the case in the Home and Colonial Stores *v.* Colls, where we believe the offending building was by no means the highest in the street. It has also to be remarked that the character of the enlargement of the servient tenement may be altered by comparatively temporary circumstances; for the tenant of the dominant tenement may, after he has prevented the increase in height of the servient tenement because it interferes with a special business from some reason or other, change his place of business. The next tenant may be one who requires less light, and who, if he had been in possession when the servient building was being raised, would have made no sort of objection. We cannot, therefore, but think that the rule of law now distinctly laid down by the Court of Appeal is, to use Mr. Justice Wright's words, calculated to "impose on servient tenements an unreasonable burden and may involve grave public inconvenience." It was to some extent for these reasons that Mr. Justice Wright and Mr. Justice Joyce inclined to a view of the law which, though, no doubt, it had its judicial supporters, was, it must be admitted, opposed to some noteworthy judgments. Unless, however, the House of Lords takes a different view, the law can now only be altered by legislation.

These two recent decisions are important, however, from yet another point of view, namely, the practical vindication of the right. In Warren *v.* Brown Mr. Justice Wright assessed the damages for the infringement of the right at 100*l.* for the tenant and 200*l.* for the owner in case his decision should be reversed by the Court of Appeal, which sums, we take, would represent the capital cost of the instalment of some artificial light to give the maximum of light required for the hosiery work which was then carried on on the premises. But in Colls's case the Judge of first instance did not assess any damages, but dismissed the action altogether. And it should be noted that in this case there was no special business carried on in the dominant tenement, only one room of which, extending a long way back, was interfered with, and this was used as a counting-house. The Court of Appeal granted a mandatory injunction to pull down part of the new servient tenement. But if damages were sufficient in Warren *v.* Brown, we cannot understand why they should not have been given in Colls's case, which was only the case of a room used for ordinary business purposes requiring more artificial light.

We have many times stated our opinion that damages are the proper remedy for the infringement of a right to light, and we can conceive no better example of the proposition

than the fact in Colls's case. Presumably, the Court of Appeal thought that after notice of appeal was given Mr. Colls should not have gone on with his work; but he had a decree of the Court in his favour, and was, therefore, presumably in the right. The circumstances were wholly different from those cases where the owner of the servient tenement, knowing that proceedings are going to be brought against him, has tried, so to say, to get the better of the law. Thus, in Von Joel *v.* Hornsey, in 1895, a mandatory injunction was granted under the following circumstances, which we extract from the judgment of the Court:—"After the defendant had received notice on Saturday that an injunction was going to be applied for he set a large number of men to work, and by Monday evening, at which time he received notice of an interim injunction, he had run up his wall to a height of 39 ft." In another case it was laid down that the Court will not interfere by way of mandatory injunction except in cases in which extreme, or at all events very serious, damage will ensue from the interference being withheld. It should be further noted that the very object of what was known as Lord Cairns's Act was to enable the Court of Chancery to give damages in place of granting an injunction, when damages were a proper and reasonable compensation.

There is no doubt, however, that judges have exercised their discretion in a somewhat contradictory manner. Thus, in the reported case of Holland *v.* Worley, in which an injunction was asked for, the late Mr. Justice Pearson refused it, but instead awarded 150*l.* damages. In the later case of Greenwood *v.* Hornsey, in which it was estimated that the damage (diminution in value) of the plaintiff's building caused by the obstruction of his ancient lights was about 600*l.*, the judge refused to give damages, and granted an injunction. That there should be this practical diversity is exceedingly inconvenient and unjust, and it is clear that legislation is needed to produce uniformity. Such legislation might be brief. It would be sufficient to enact that when there has been an infringement of ancient lights the Court shall in all cases award damages in respect thereof, except where by such infringement the building, as a whole, has become useless either as a dwelling-house or a place of business. As long as the law regards the right to light as one in respect to which the owner of a dominant tenement should be protected, some remedy must be found, but such remedy should be that most universal and most reasonable remedy, compensation by means of pecuniary damages, which in every case it is possible to assess with more or less nicety.

This brings us to another point. The Institute of Architects and the Surveyors' Institution some time ago (April, 1900) appointed a Joint Committee to consider the law of ancient lights. This Committee duly made a Report, which seems to have produced no practical result. Years ago the late Mr. Arthur Cates obtained the appointment of a Committee of the Institute, to which some lawyers were added, to consider the same question, but the work of this body was equally ineffectual. At the time of the Report of the Joint Committee we expressed a hope that it would be more than an academic document. That hope has hitherto been unfulfilled. Here, however, is an opportunity for a little bit of legislation, modest enough but of practical value, which the Institute of Architects might well undertake. Mr. Colls's case affords good ground for this action, and if the Institute does not take up the question it is obvious that it would be well not to appoint committees at all. We hope that Mr. Colls will, at any rate, endeavour to secure an alteration in the law by united action among London builders, even if the Institute of Architects does not possess the vigour to initiate legislation.

THE BELFAST MILL DISASTER.

THE verdict of the coroner's jury on the deaths of the persons killed by the recent disaster at the Smithfield Mill, Belfast, exonerates any one from the blame on the ground that the defects of the building, which caused its collapse, could not have been discovered "by ordinary inspection," *i.e.*, we presume, by the inspection of ordinary persons who had no knowledge of building; and that consequently no blame attaches to the owners of the building and the employers of the unfortunate people who were killed. This may be admitted, on the evidence; but we do not know that it follows that no blame was to be attached to any one. At all events, the fact that a building was standing which was obviously dangerous, and that it appears to have been no one's business to see to this, reveals a very unsatisfactory state of things in regard to the local arrangements for the inspection of factory buildings. This does not seem in any way to have occurred to the jury, who made no recommendation of any kind in regard to the future; indeed, they and the coroner seem to have been more occupied in bandying mutual compliments than in any consideration as to guarding against a repetition of such accidents.

From the evidence as given at length in the *Belfast News-Letter* (the London papers seem to have paid little attention to it) there seems to be no reasonable doubt that the building fell owing to faulty construction in the first instance. The following is the general description of the structure given by Mr. A. B. Wilson, civil engineer, of Belfast:—

"He stated that he became acquainted with the Smithfield Mill about eight years ago. The building was 135 ft. long internally, and 39 ft. wide. It had four floors in addition to the ground floor. The material was brick buttressed externally, with window openings—the usual mill construction. A series of columns 9 ft. apart ran the whole length of the building, and were so far removed from the centre as to allow of a passage for the workers between them and the frames. The floors were of brick arching filled in with cinders—in two cases covered with asphalt, and in all cases with tiles set in cement. In his opinion the floors were sufficient. The floors were supported by the central row of columns, which carried beams reaching across the house. One end of each beam was built into the external wall, and the other rested on the columns. The floors were laid in between the beams. The beams were of cast iron."

Mr. Wilson proceeded to state, as the result of his observations, that the building failed through the giving way of two of the brick piers, close to the ground, owing to their having too great a weight on them. There seems to have been a preconceived opinion in the mind of the coroner that the disaster had been due to failure in the supports of the machinery, which had fallen and dragged the walls down. Mr. Wilson's reasoning was that in that case the walls would have been pushed outward, whereas they fell inward. We do not quite see the force of this reasoning, for seeing that the floors were carried on beams built into the walls at the outer ends, a failure of the columns in the centre through over-weight of machinery or effects of vibration, would be as likely to drag the walls inward as not. There is no positive evidence, however, as to failure of the columns or beams; nothing to show positively whether the wrecked beams were injured by the fall, or whether they fell on account of their own weakness. On the other hand, the evidence as to the brick piers is pretty positive. They were, according to the expert evidence, of 8 ft. of area on plan, and had to carry a weight estimated, with live load and machinery, at about 80 tons per pier, or 10 tons per square foot, the greatest weight allowable for the best brickwork built in cement. Mr. Wilson states that the bricks were of poor quality; whether they were built in cement or mortar is not stated; nor (which seems a still more curious omission) was any statement made or any question asked, as far as appears in the report, in regard to the unsupported height of the brick piers and its relation to their width—surely a most important point, considering that they were evidently pulled down by the weight hanging on them from inside the building rather than by the vertical weight. It was asserted by one witness that the two piers which fell had formerly been connected by a wall between them, which had been removed; but this was denied, and at all events no satisfactory evidence of it was forthcoming.

There remains, however, the fact that a building had been erected and had been standing for many years, in which the materials and the proportions of the piers were inadequate to the weight they had to carry, and are now authoritatively stated to have been so by an engineering witness. In spite of this it appears that the proprietors had at one time contemplated adding another story to the mill, and it appears that the only reason they did not do so was that they considered it more convenient to build a new department, which they could add to in future. Nothing is said about any supposed risk to the building in adding a new story.

Now the question (which does not seem to have troubled the Belfast jury at all) is, how did it come about that a factory in which many hands were employed was, if not insufficiently constructed at the outset, at all events added to more than the walls would bear, and was standing for years in a state now said to have been, and only too conclusively shown to have been, dangerous. Mr. Snape, the Inspector of Factories, stated that he had no power to inspect buildings so as to see whether they were faulty or not, and that he had never made any inspection of the structure in question. Is this true? And if it is, ought not some competent official to have power to see whether a building in which numbers of people work is structurally safe?

It is surely not much use looking to the ventilation and the temperature of a mill-room, if the building itself is unsafe.

NOTES.

The London Water Bill.

THE discussion on Tuesday on the Water Bill of the Government by the London County Council was purely academic. The opinion of the Council that it should be the water authority for London is perfectly well known. That the proposal to establish a new authority in addition to those already existing should be challenged in Parliament is very desirable. But, all the same, the second reading of the Bill is pretty sure to be carried. Whether, however, the Government will have the vigour to carry it through all its stages is a different matter. The County Council is hostile to it, and so are the water companies; before this dual opposition it may lose its legislative life. It will be in Committee that its progress will be watched with interest, for it is there that important amendments will be proposed.

The Liverpool Overhead Railway.

THE station at the Dingle end of the Liverpool Overhead Railway, which was practically destroyed by the disastrous fire at the end of last year, has now been reconstructed in accordance with the suggestions made at the Board of Trade Inquiry. It will be remembered that the disaster of last December was caused by a combination of untoward events, but it taught the lesson of how rapidly a fire can spread in a tunnel from one end of a train to another when it is fanned by a gale, and how dangerous the suffocating fumes can be. The platform of the station is now flagged with stone and the side walls are of brick. The signal-box also at the entrance to the station has been rebuilt of brick. Wood and inflammable materials generally have been used as sparingly as possible, and the stairway out of the station has been roofed in to check to a certain extent the full force of a gale of wind from blowing through the tunnel. Elaborate safeguards in the shape of chemical engines for the extinction of fire are kept in the station. The May-Oatway automatic fire-alarm system is also installed, so that the moment the temperature rises high enough to melt the detecting wires a signal is automatically sent to the station officials and to the Liverpool Fire Brigade. The new arrangements were officially inspected last Saturday, and gave general satisfaction. With the modern form of enclosed railway motor we think that a similar disaster would be practically impossible.

Competitions in Italy.

ACCORDING to the *Tempo* of Milan, the "Famiglia Artistica" (Arts Club) of that city met on the 10th inst. to discuss the recent appointment of the Sculptor Ettore Ferari to execute the national monument to Mazzini in Rome, without any previous public competition. A numerous company assembled at the invitation of the club, and speeches were delivered condemning the arbitrary proceeding of the Government. The following order of the day was voted with unanimity:—

"1. That all works of art of a public character should be chosen in a public competition open to all artists.

2. That such competitions should be judged by a Committee of Artists, without interference from outside the profession.

3. That a Commission of Italian artists should study and decide upon the means of holding such competitions.

4. That the Managing Committee of the 'Famiglia Artistica' be charged to convey this order of the day to the authorities in the matter, and to convoke as soon as possible a congress on the subject."

These deliberations of the meeting have been communicated to all the artistic clubs of Italy, and to some across the frontier, as well as to the Italian Government and the different Municipal Authorities.

The Luton Hoo Tapestries.

THE Luton Hoo Tapestry case, upon which we have commented in its previous stages, has been carried to the House of Lords, and has resulted in the affirmation of the decision of the Court of Appeal. The judgment of the House of Lords does not lay down any new principles in regard to fixtures as between landlord and tenant, or the owner of the freehold and the executor. Still, we are inclined to think that the judgment of the Lord Chancellor emphasises the intention of the persons who placed the fixtures in the house more than has hitherto been done. It was necessary to bear in mind, he said, both the purpose of annexation and the degree of annexation; and when he came to test the present case he came to the conclusion that the tapestries were never intended to form part of the house. Lord Shand remarked that a tenant was entitled to decorate his house with pictures, tapestries, or other ornaments, or even with a parquet flooring, and on leaving to remove them if he did no other damage. The introduction of the words "parquet flooring" as an example of fixtures which may be removed by a tenant appears somewhat to increase the rule, for parquet flooring would seem to be much more in the nature of a permanent fixture than tapestries, which are really a kind of picture. The Lord Chancellor said the law had not changed (which was an agreeably conservative opinion), but the habits of the people. But we can scarcely agree with this view, for it is the application of the law in regard to fixtures which has grown more in favour of the tenant. That it will have further developments we cannot doubt, having regard to the wide scope which may be given to the idea of "intention" on the part of the person who erects something in the nature of a fixture.

Proposed Hull Town Hall.

A CONSIDERABLE controversy is going on in Hull in regard to the proposal of the Corporation to employ their official Surveyor to design and carry out a new Town Hall. It appears that the idea of a Town Hall only evolved itself by degrees, out of what was at first a proposal to build a large hotel and shops on an area of insanitary property which had been cleared. Subsequently the idea was started of building a public room over the shops, and from this it is only a step to the idea of a Town Hall, with (apparently) shops on the ground story—a wretched expedient. As the first scheme was in the hands of the City Surveyor, it comes out that he is now to be the architect of the new Town Hall. This is certainly not a satisfactory prospect for the city, and a great deal of feeling has been aroused about it. Hull is a city poor in architectural attractions, and if a new Town Hall is to be built, it should be gone about in such a way as to give some probability that the building will be one of architectural importance and an ornament to the city. There certainly seems no chance of this under the present proposals. Hull is too large and important a city to be satisfied with doing things in this kind of second-class manner.

Electricity Supply.

THE quality and the number of the papers which have been read before the various local sections of the Institution of Electrical Engineers this year proves that the sections are doing good work and more than justify their existence. The paper read recently before the Newcastle section by Mr. A. Stewart on the cost of electricity supply was a very thoughtful one. He points out that the most pressing problems to be solved are those in connexion with power distribution over large areas. The usual custom is to generate electricity at high pressure and distribute it on the three-phase system to sub-stations where the pressure is reduced, and the system is generally altered to a three-wire direct current one before the current finally reaches the consumer's terminals. One of the problems Mr. Stewart solves is to find the proper pressure at which to transmit the power to the sub-stations. He proves that at high pressures, although the price of the copper required is very small, yet the cost of the insulating material required becomes prohibitive. There is a particular pressure at which the cost of the mains will be a minimum, and he shows by an easy graphical construction how this can be found. The diagrams proving how rapidly the ratio of the cost of the insulation to the cost of the copper increases as the section of the wire is reduced are most striking, and prove that the engineer who refuses to trust to one cable will have to pay a heavy price for the additional safety given by two, owing to the greatly increased cost of the insulation. The author rightly dwells on the importance of the "power factor," or the ratio of the working current to the total current. If this ratio prove to be smaller than it has been assumed in the calculations for the design of a power scheme, then the output of the station will be smaller in proportion, and so the profits will be most seriously affected. The initial capital outlay is the most important factor to be taken into account in calculating the cost of electricity supply, and the cost of fuel, &c., is not nearly of such importance as it is popularly supposed to be.

The Haberdashers' School, Monmouth.

MR. HENRY STOCK has prepared plans and designs for the erection of school buildings for the Haberdashers' Company, at a cost of about 3,300*l.*, on a tender by Messrs. King & Sons, of Gloucester. The Grammar School was endowed in 1614 by William Jones, who gave 9,000*l.* to the Company for establishing a free school, and almshouses for twenty poor decayed men and women, each to have a separate house and garden and 8*s.* weekly for maintenance, with a lecturer in priest's orders, and houses for the master and usher and the preacher. The Company expended 3,400*l.* upon the buildings and site, and purchased an estate of 350 acres at Hatcham, near New Cross, London, to provide an income for the charity, which, in an official return made twenty-one years ago, is stated to amount to 4,507*l.* per annum, the almshouses and almspeople and the school

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taking 1,000*l.* and 3,207*l.* respectively. William Jones made other munificent bequests to the Haberdashers' Company, comprising his house in Sithes (since Sise) lane, London, and capital sums of about 7,000*l.* in the aggregate, now largely increased in value by subsequent investments.

The "Old Rectory," Beaconsfield.

THIS building, which, as some say, is the oldest parsonage house in England, and was recently reinstated by Sir Edward Lawson in memory of the late Lady Lawson, has just been vested in three trustees and dedicated to parochial purposes. Its erection was begun in or about 1500, when the rector, Richard Capul, left 40*l.* towards the building, and was completed in 1543 by Richard Rawson, Canon of Windsor and Archdeacon of Essex; the house served for a while as a sub-priory to the Benedictine convent established in 1265 at Burnham, in the same county, by Richard, brother of Henry III. and King of the Romans. Constituting one of the most perfect and unaltered examples of its time, it is planned with three sides, and a high wall with gateway, about a quadrangle. The basement story is constructed entirely of brick, glazed with chequered patterns; the upper story, of which lofty gables and dormers break the roofs, is built of large timbers closely spaced and plastered between. To the north side is attached the principal staircase, within a semi-cylindrical turret of timber—a curious and picturesque feature of the design. The amount of timber used in the building is, indeed, surprising; the floors were formed of enormous planks, and the steps to the floors and of the stairs of massive blocks roughly shaped with the axe. Darkened passages are framed with solid tree trunks, which were also used for partitions, where the builder of our day would consider thin boarding to be sufficient.

Ruskin Monument, Westminster Abbey.

IT is not easy to find the modest memorial to Ruskin in Poet's Corner. It is a circular bronze medallion hung high up on a dark part of the south transept wall, above the bust of Walter Scott (a neighbourhood Ruskin would have liked well enough), and partially screened from view by a large monument standing nearly in front of it. The medallion, something over 2 ft. diameter, is in what may be described as a dish form, with a decorative border of foliage, apparently, round the rim; but there is too little light to see what the detail is, or even whether the name of Ruskin is worked into the design. The head, a side-face in high relief, is better discernible, and is a good and characteristic likeness. The whole style of the thing we quite approve, but it is not done justice to in the position in which it has been placed.

The late Mr. Sidney Cooper.

THE long artistic career and persistent energy of the late Mr. Sidney Cooper, who continued the exercise of his art almost to the very close of his ninety-eight years, has naturally excited many expressions of interest and respect, in spite of the fact that the pictures of his later years did not much gratify the more discerning section of the public who visit the Royal Academy exhibitions. In making a fair judgment of Sidney Cooper's art, however, there are two or three points to be considered. He must not be judged by his later works, in which, while his able drawing of cattle in repose remained the same as ever, his eye for colour and texture had manifestly decayed. Nor must his earlier works of this class, which were excellent in their way, be judged from the artistic standpoint of the present day. His art was developed at a time when highly-finished realism was considered (in this country at least) a main object in cattle and landscape painting; and the development of a taste for a broader and more powerful manner in painting left him behind—the more decisively in consequence of his long life and his continued appearance before a generation brought up in a different artistic atmosphere. His earlier cattle pictures, in their simplicity of design and a certain element of tranquil repose which pervaded them all, justified the comparison with Cuyp which was often made, though Cuyp's warm sunlight was not in them. But that Sidney Cooper was capable of more than this is shown by his large and little-known picture of the repulse of the French cuirassiers by the English cavalry at Waterloo. This was purchased by or for some public institution in Liverpool, and is we suppose still in that city. It is one of the best battle-pictures ever painted in England; there is one group on the left, of two horsemen engaged in single combat, which is masterly in design and vigour of action; and any one who had seen this picture would have quite a different idea of Sidney Cooper from those who only knew his later works at the Royal Academy.

STAINED GLASS.*

THIS paper upon stained glass is intended to deal with the technical side of the subject, and to be descriptive of its different stages and processes. The time at my disposal, and the wide field which the technique in stained glass covers, deter me from plunging into the history of the actual process of its manufacture, or of showing the prominent place it takes amongst the applied arts. But I feel that some mention should be made of the evolution of the leaded or painted window as an architectural adornment from the domestic and fanciful purposes found for the uses of glass in ancient times. We find the Egyptians and Greeks made coloured glass cups, vases, urns, rings, beads, and articles for games, and that they were most expert in imitating in glass precious stones. The discovery or invention of glass may, with great probability, be attributed to the Egyptians, but considerable doubt has existed on this point, for it has been assigned by some to an earlier people. The glass of the Egyptians was generally opaque, and always coloured. There exist many skilful examples of the glass-worker's art of ancient times, and perhaps the most representative of them are coloured glass vases, having the enrichment of figure work upon them, and treated like a cameo. I do not think we have reliable evidence of the date when glass was first utilised for the purposes of a window. It is recorded that window glass does not appear until about the third century, evidence of this existing from fragments found at ruined houses at Herculaneum, and small doubt existing about its use for the same purpose at Pompeii.

The term "stained glass" is very generally misinterpreted, and is accepted by many as painted glass. Stained glass and painted glass are two very different things; stained glass is coloured glass with a vitreous pigment upon it, and painted glass is white glass with enamel colours upon it; the colours applied here are enamels of all shades, but manufactured also with a vitreous substance to render them adhesive to glass when fired in the kiln. Stained glass is composed of coloured glass; the actual colour is in the material itself, manufactured from various stains and chemicals. There are many in kind, but for richness, brilliancy, and durability, antique and pot-metal glass stand alone, and very beautiful materials they are. This glass, to briefly describe its manufacture, is blown in cylinders, each, of course, being coloured from its respective pot. The cylinders having been formed on a glass-blower's pipe, it is cut down one side and placed in a dividing kiln, where it is allowed to fall upon a flat bed. Each cylinder comprises one sheet of glass, varying in size 20 by 30 in. Another process of making antique glass is by blowing it into the shape of square bottles, which are subsequently cut open, the four sides and bottom forming small sheets. In this process the metal is blown into a mould which is partly open, but which is closed up when the glass blower has well circulated his metal and gives it a final blow. The object of this process is to obtain a texture which is far richer than that blown in cylindrical form. This, however, is a more expensive process, and hitherto it has not been possible to make the sheets larger than 9 in. by 5 in. It will be observed that a great thickness is to be had in this glass, which enhances its brilliant quality and makes it very strong and durable.

Many varied effects are to be secured in these two kinds. In yellow, blue, ruby, and brown glasses we have streaks of other colours, which sometimes take curious forms, and by careful manipulation of them in a window very happy results can be arrived at. There is a distinction between pot metal and flashed glasses. All colours, except flash glass, are called pot metal; the colour in them is of solid density through the glass. Flash glasses are two in kind—ruby and blue. A thin film of ruby is mounted, as it were, upon other glasses, such as white, neutral white, yellow, and blue, and a blue glass is mounted upon white and neutral white. These are technically known as ruby on white, ruby on yellow, ruby on blue, and blue on white. Many varied effects are obtainable from the flash glasses. By the aid of fluoric acids this film of colour can be removed, thereby revealing the colour beneath it. And so, presuming a gradation of many colours of a lasting nature were required within one leaded space, it would be possible in the following way: Select a flash ruby on white and cut to a certain shape, then take a flash blue on white and cut exactly to the same shape, acid the ruby away in one part of that shape and acid the blue away in another, stain each piece where required with a yellow stain and place one upon the other: the colours arrived at are pure ruby, pure blue gradating to purple, green, white, and orange. This merely illustrates an extreme example of what can be arrived at, but it will suffice to show that a very rich garment can be portrayed very faithfully in stained glass, although the process is time taking, and that the beauty of the material places this branch in the applied arts to very great advantage. The designer, in carrying out a design, finds processes of this kind very fascinating. When one piece of glass is leaded behind another, and it is a legitimate process to do so, it is called plating. The manufacture of glass is a separate and distinct industry, and does not directly concern the stained glass worker. It will be seen that the coloured material itself, cut up into many pieces, and having in its composition a great amount of leadwork, is the process to which the term "stained glass" can be correctly applied. This process is extended and enriched by the application of painting to produce greater expression of form. The hard trace lines, the style of painting, and the black lines of the leadwork, render the effects most suitable for the purpose it is intended, and these must essentially place it on the basis of sound principles in decorative art. The term "painted glass," to which I originally referred, consists of the application of enamelled colours on white glass, and the coloured effect is solely derived by this means. In this process the pieces of glass are very much larger than those in stained glass. In enamel painted windows the tendency is to produce the pictorial rather than the decorative. Most of this kind of glass comes from the Continent. (Peterhouse, Cambridge, Glasgow Cathedral, Stoke Pogis Church.)

In stained glass the only mediums for painting are pigments known as red tracing colour, brown shading colour, flux and silver

* A paper read at a meeting of the Architectural Association Discussion Section, on Friday, the 8th inst., by Mr. J. Dudley Forsyth.

stain. Coloured glass is the most vivid form of decoration, and consequently has very strong influence on surrounding objects, and unless these objects and the surrounding situation are personally studied, the designer cannot know in what harmony his work is to be. I have touched but lightly upon the history and manufacture, but as my paper is intended to treat of the practical side I will now deal with the various stages in the designing and making of a stained glass window.

From the point of view of decoration, a window, or the glass surface of it, is architecturally a structural plane, having the relative value of a wall. But its chief purpose is to admit light and air. Therefore, the embellishing of it must in its kind be flat, conventional to certain limits, and not pictorial. The nature of the material also governs and requires this, and the straining after naturalistic effects is rendered false by the transparency of the material and because of the heavy black constructional lead line that must of necessity surround and support a piece of glass upon which might be a delicately-painted natural sky scene effect. That sky scene effect should have been conventionalised to suit the requirements of the material.

The usual method of proceeding in the treatment of a stained-glass window is to commence by making a coloured sketch design, which shall be meant to convey the general idea of what is intended. The forms of the window openings govern the selection of subject. The general massing of a coloured composition must be the first consideration. The next point of importance is the arrangement of metal bars, which are part of the construction. Having apportioned the spaces to be filled with figures and other features, the designer will have overcome much of the difficulty in a design. His next care is to draw the figure subjects, giving chief thought to their composition; draw in the accessories, as grisaille and other backgrounds, canopies and borders such as he may consider applicable to his design, and then colour it. The lead lines should be clearly indicated in this sketch. But it is next to an impossibility for a designer to successfully attempt this without inspecting the actual situation of the window which he is to treat. It is imperative that he should do this. Other reasons as to the advisability are that the designer is able to judge of the proportions of size and detail his figure subjects should be, and what strength of painting is necessary, and whether that painting shall be broadly felt or not. Scale is a very important point in a window, and much depends upon it. It is not well to draw figures too large, and so dwarf the window and the building; nor is it wise to draw figures too small, especially single standing figures, and so convey unduly large proportion. The designer, when visiting a building for the purpose of judging the best means of decorating it, very often receives immediately in his mind an impression or inspiration which invariably turns out to be the best. First impressions of this kind apply as much, if not more, to stained glass decoration. The character and style of the building should materially assist in designating that of the decoration. The situation of the window as regards the light is another point where much care and study are demanded. The varying light of day, and particularly the sun's rays as they veer round from east to west, taken with the necessity of admitting light to the building, is perhaps a perplexity under which an artist has to labour, and unless he acquaints himself with its force and effect in the building, he cannot be satisfied that his production in key of colour and depth of tone is well suited. In the windows of the south side of the building, through which clear sky can be seen, the scheme of colour and tone may be a good deal stronger than that on the north side. The sun when shining through stained glass seems to obliterate the painted work upon it. The morning sun does not, however, seem to be so detrimental in this respect as the afternoon sun, when it shines with a very great glare through a west window. This force of light might be very much or very little retarded by objects outside the building, such as houses and trees, and if these objects are permanent they would naturally have important bearing upon the treatment of windows. In the windows of a building which is cold and bare in its stone masonry it is well to avoid pure blues and cold greens, which, if they must of necessity be used, should be well toned down. Should the interior have warmth in its construction and furnishings, then the blues and greens might be clearer, but not to appear garish, and the value of the material itself not so subjected to shading colour. Pale whites in a window where strong colour predominates are apt, unless very carefully tested, to be treacherous. Strong light has the effect of accentuating their presence, and they seem to gain in size and whiteness as distance separates them from the spectator. Pale white glass can be safely submitted to heavier painting than many other glasses, and unless the tone on them be of relative intensity they will at no great distance tell out as unaccountable and regrettable spots in the window. It will therefore be seen that with such numerous local conditions it is impossible for a designer successfully to undertake work of this nature without a thorough personal inspection of the position and its surroundings. I do not see, therefore, how work, architecturally correct in its application, can be chronicled in a catalogue to fit or be made to fit any window, because it is most unlikely that different windows have the same situation and surroundings.

Having completed his coloured sketch design, the designer's next step is to draw the full-sized cartoon, which is set up from templets taken from the actual window openings. Then are drawn the constructional bar lines. In drawing the cartoon the figures and other subjects demand more careful attention paid to their composition than the designer gave them in the sketch, which was little more than a scheme of colour. Special studies should be made of groups of figures both in the massed composition and individual pose, for here the designer's skill is put to the test, like the painter or sculptor who is engaged upon probably the most critical part of his work. The cartoon may be drawn in various mediums, but chalk and charcoal are, perhaps, most generally used. Here the figures and other subjects are set up from the studies, having every possible care taken in accuracy of drawing and beauty of line. The outline should be drawn with a hard, distinct line, being made stronger or finer as the position of the window may require; that is to say, a window that is high up would necessitate stronger lines than a window that is nearer the eye. The subjects are then shaded, as light and shade would appear upon them. The lead lines are painted or drawn on, and they are added to the cartoon after the figure and other subjects are drawn, but preferably before the cartoon is shaded, for by so doing careful drawing can be maintained, and the lead-work having its due value, governs the strength of shading. The cartoon can only be successfully drawn by a designer who is thoroughly experienced in the practical parts of glass-cutting, glazing, glass-painting, firing, &c., because he is designing and directing these different employments. His knowledge of glass-cutting will enable him in his cartoon to lead up his figures in a natural manner; that is to say, each piece of glass which he is using shall be simple in shape, avoiding such forms as would be most liable to break. When leaded up and cemented, the handling of the work, or the pressure brought to bear by the wind and gales, would break such weak points in the window. His knowledge of the glass and glass painting will dictate that he shall shade his cartoon in a manner consistent with the technical requirements of that material and craft. For instance, if a drawing is to be made or a garment to be cut in a deep, rich colour, the designer will avoid heavy shading, for a deep colour in glass does not require so much pigment upon it as a light glass. The beauty in the material should be preserved. In adding to his drapery ornamentation of diapers and borders, and other details which he has decided will be most effective in silver stain, the draughtsman will know that he cannot have a diaper here or a border there, because in colouring his design the glass required for that garment will not stain well. The explanation of this is that many glasses are so hard that they will not take a stain, and when stain is applied to them and fired, it comes from the kiln in unfortunate brown patches. His knowledge of leading or glazing will enable him to show with practical accuracy the broad divisional lengths in the window, and he will arrange his detail accordingly. It will readily be seen that the composition of the design is dominated by these materials and processes; but by the aid of these materials and processes the artist has very wide scope for design, refined in its conception and with individuality in its execution. When the cartoon is finished a tracing of the lead lines is made on tracing cloth. This is called a cut line, and is a working drawing for the cutter. From this he cuts his glass. It is here where the designer's careful and personal attention is required; it is here where the harmony of colour for the window will depend. The designer had his intentions regarding the coloured glass and the special quality of texture for his work, and he should be here to select it for the cutter. The cutter, no matter what his capacity may be, cannot be acquainted with the motives and ideas of the designer, and should not be allowed to select the glass himself. The sheet of glass is laid over the cut line, and the line to be followed, which can be seen beneath, is impressed on the glass with a steel wheel or diamond. Every piece of glass in the window is cut in this manner. When all the pieces of glass are cut by the cutter, they are arranged out in their respective positions upon the cut line, near the glass painter's bench, who in turn finds separately their positions on the cartoon, and from that traces upon the glass all the outlines in red tracing colour. The glass, with these lines upon it, should receive a light heat, known as *lines fire*, so that these trace lines can be indelibly fixed upon the glass. The object of this will be presently seen. This process having been gone through, a glass painter's plate, or easel, which is a large sheet of plate glass framed in wood, is laid over the cut line, and upon it is placed each piece of glass in its position corresponding with the cut line. These pieces are made to adhere to this plate by the insertion of hot wax; the plate is then held up to the light for painting. There are two or three methods or styles of painting, but the one most widely practised is termed the stipple. This method is done by applying the brown shading colour in a moist state upon the glass, with a brush known as a flat, and then with another hard brush a stippled matt effect is obtained, and allowed to dry. Unless the trace lines are indelibly fixed upon the glass this process would wash them off. When dry the lights are gradually removed with soft brushes, and the shading of the cartoon carefully followed. This process should be repeated by stippling again over that surface for intensity of tone. Another method of painting, most effective for fine and delicate work, is that known as a flat matt, but this is a more intricate process.

For two reasons the glass requires two or three firings: first, to arrive at excellency of painting and to make it permanent; second, because it is a sound test as to its durable quality.

Having had a second and very hot fire, the glass is stuck up for a second time upon the painter's easel to receive its finished painting, when subtleties of tone and expression are felt. This completed, the glass is again fired and receives a cooler heat known as the *finish fire* or *stain fire*, because it is in this last process that the silver stain is added, and requires a cooler fire, and that only once. Should stain receive too hot a fire, or go through the kiln twice, it will come up too deep in colour.

Stain is pure silver and is mixed with a yellow lake, the component parts being about 12 of lake to 1 of silver. Flux is sometimes painted on white glass for the deadening the brilliant light which might render that portion of the window overpowering.

It will be readily understood that glass painting is a very important process in the making of a stained glass window. It is manipulating the material itself which is to remain evidence of a certain designer's work. Therefore, as many subtleties are requisite, relative tones properly produced and points in the cartoon faithfully and characteristically followed, the designer should interest himself in no small measure to see that these are artistically and thoroughly carried out. He should be able to paint the more important parts of the glass himself, and unless this is done I do not see how his individuality is to be preserved. He should not rest satisfied that his efforts in the sketch and cartoon are all that are required of him. His own personal work and supervision are seriously required on the glass itself. Apart from the necessity, glass painting is interesting to the designer, and in practising it he is ever acquiring knowledge of technical points in which this craft abounds. From the finish fire the glass is placed in the glazier's hands.

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Glazing, of course, is a more mechanical process, but not devoid of interest. The many pieces of glass which a window will comprise are to be held together with lead. The lead should be pure, and a worker in stained glass should boil down the lead, extracting the dross so that he really does use it pure. The molten lead is poured into a mould and castings into a rough section taken. These castings are then past through a steel vice, to which are fitted cheeks of various sizes, and strips of lead are turned out accordingly and ready for use. The glazier's occupation is to take down the cut line on his glazing bench, laying in its respective position each piece of the finished glass, then proceeding in a systematic manner to lead them up. When leaded up the glass is bound to have a different effect than it had when on the painter's easel, for the reason of the black lead lines. Some of the results will be disappointing to the designer, and he will require to make certain alterations for their improvement. For this purpose, therefore, the cutter merely solders the lead joints on one side of the window, so that glass which has to be altered can be easily removed and the improved pieces easily inserted. It will be remarkable indeed if the effect at this stage is in every way satisfactory. Alterations having been approved of, the window is soldered on the other side and the cementing process proceeded with. The interstices between the lead and glass on the inside or painted side of the window are filled with putty, and those on the outside are filled with a cement composed of whitening, boiled oil, red lead and turps, which is applied with a hard brush, passing all over the surface of the window. Cementing is obviously to render the window weather proof, and to add to its stability and strength. When thus completed and cleaned off, copper bands are soldered on the inside of the light, to be twisted round the metal bars when placed in its final position.

I have endeavoured to give a full description of how, in my opinion, stained glass should be worked. Reference to styles of different periods has been avoided.

I would like, if you will allow me, to say a word in protection of the stained-glass worker. He need not necessarily be a "light excluder," an appellation which I have heard assigned to him.

Apart from its use in a church, I consider stained glass very suitable for domestic decoration, and it cannot be denied that the effects which are obtainable in it can be made to greatly beautify the interior.

MAGAZINES AND REVIEWS.

THE *Architectural Record* (New York) contains an important series of articles in its issue for the present quarter, of which perhaps the most interesting to English readers is that on architectural work as at present carried out in Paris. It is written by M. Allain, architect to the city of Paris, and gives plans and illustrations of several important recent buildings in Paris, especially the remarkable house built by M. Janty for the Prince Buonaparte; remarkable for its plan and for the completeness with which every portion has been studied, though we are far from saying that it is a kind of architecture that has our sympathy. M. Allain gives among other illustrations a sketch elevation of M. Esquié's design for the Opéra Comique, and wonders that it was not selected; certainly M. Bernier's design as a whole is commonplace, and this is not; but although the details of M. Esquié's design have a remarkable vigour and freedom, the great arched cornice which frames in the whole design is quite out of scale, for a large building; on a small scale such a design would be very effective, but one is surprised to find an eminent French architect, with all his academical training, apparently so forgetful of scale. The article by Mr. Schopfer on "Ceramics in Architecture" deals mainly with what are called the "sharo-fire ceramics," or ceramics fired at a great heat, by a process perfected by a French chemist, M. Bigot. If the illustrations to the article on "The Contemporary Suburban Residence" show the general tendency of American small country house architecture at the present moment, it seems to have deteriorated rather in picturesqueness and character from what it was fifteen years ago, and become prosaic and matter of fact. The illustrated appendix shows a great many very interesting and in many cases admirable examples of recent American city architecture.

The *Berliner Architekturwelt* is largely occupied with the illustration of the Wolzogen Theatre, of which Herr Endell is the architect, and which appears to represent the "new art" *in excelsis*, the decoration seeming all spikes and wires. Clever it is, undoubtedly, but utterly destitute of repose; or rather, one might say, utterly exasperating in the persistence of eccentricity in every detail. It is impossible such a taste can last, and before more than a few years are out people will be wondering how they ever came to put up (or to put up with) such architecture. One or two new roadside stations on suburban railways at Berlin are interesting and commendable as examples of an attempt to give a special character to railway architecture.

The *Architektonische Rundschau* illustrates in its last edition German work only, including some stone-fronted street houses with good deal of character, and the front of the Konigliches Land-und-Amtsgericht at Berlin, a piece of very rococo modern Classic, not without a certain vigour and "go," which is what the Germans seem to aim at in buildings of the Classic type. The interior of the Fest-Saal in the Künstler-Haus at Munich, by Herr Gabriel von Seidl of that city, is a riotous but original piece of decorative effect.

The most interesting article in the *Art Journal*, to our readers, is likely to be that by Mr. Lewis F. Day on "An Heraldic Artist of To-day," Herr Otto Hupp, of Munich. We entirely agree with Mr. Day in the opinion that Germany is supreme in the treatment of heraldic decoration; there is a boldness and vigour in German treatment of this class of design which one finds nowhere else. As Mr. Day observes, "Heraldry is not precisely a modest art—the business of its designer is to blazon forth the pride of ancestry, even defiantly; and here is an artist who does it with the assertive emphasis befitting the proud office of herald." The numerous illustrations of Herr Hupp's work completely bear out this judgment. An article on "The River Wye," illustrated by Mr. A. R. Quinton, is enough to make all who have not already done so make a tour up the Wye. An original etching, by Mr. Haig, of Linlithgow Castle, forms the frontispiece to the number.

The *Magazine of Art* is largely occupied with special consideration of the works of several artists. Mr. Spielmann contributes a sympathetic critical article on the works of Onslow Ford, a very well-balanced piece of criticism, doing full justice to the beauty of Ford's work, while declining (and we think rightly) to class him among the great sculptors. We concur in the opinion that "the most fascinating of all Mr. Onslow Ford's works were his statuettes of the female nude." These, with the pedestals which form an integral part of the whole design, are perfect works of art, and of a marked individuality of treatment and conception. An article is devoted to the work of that admirable and original painter Mr. Melton Fisher, numbering among its illustrations a reproduction of a study for the figure in "Dreams." Another article is devoted to that (in our opinion) much over-rated caricaturist, Rowlandson. An article on Goya, signed "S.," is completed from a former number. Goya's name, says the writer, will be remembered for his best work; "but while his art will always retain a great measure of approval, the man himself will be thought of with scorn and contempt." He seems to have been a man who hated every one and was always quarrelling, even with his sitters, whom he bullied remorselessly. "English and Foreign Schools of Art—a Comparison," is the title of an article by Mr. James Ward, the headmaster of the Macclesfield Schpol of Art, in the course of which he observes that "England is now leading the way in the matter of design as applied to art manufactures," which we believe to be perfectly true; and Mr. Ward says that he has found this to be admitted by eminent professors in design in Germany, France, and Switzerland; and that, in fact, our Continental neighbours are more alive to this condition of things than the majority of our own people. The illustrations of English and French applied art which accompany the article certainly sustain this view.

The *Artist* contains a witty and amusing satire on "The New Art," by Mr. Harry S. Curry, illustrated with slightly exaggerated setches of some of the favourite forms of house, and the long tapering square columns and wide shallow crown moulding which form the elements of the most recent style in furniture design. Very young architects should read this essay; it may do them good. Mr. Horace Townsend contributes an article on "Some Recent American Silverwork," with some examples which, we confess, do not fascinate us much.

The *Art Worker's Quarterly*, edited by Mr. G. Paulson Townsend, is a new periodical devoted to the illustration of and to critical writing on, the class of artistic production implied by the title. Such a publication seems to supply a want, and the first number certainly promises admirably; the illustrations are numerous and beautifully executed, and represent designs, old and new, for woodcarving, embroidery, lace, bookbinding, leather-work, &c. Among the articles in the first issue are "Morris's Work and its Influence," by Mr. J. Scarratt Rigby; "The Modern Illuminator," by Mr. E. F. Strange; "Intarsia or Inlay," by Mr. Stephen Webb, &c. The typography is excellent in style, but we wish the promoters could have dispensed with the affectation of calling the preface a "Foreword." Is the King's English not good enough for them? There is nothing artistic in this kind of pretentiousness of diction.

To the *Antiquary* Mr. E. C. Vansittart contributes an article under the title "Roman Curios," on some little-known and out-of-the-way curiosities of the Eternal City. Among these is mentioned the crucifix carved high up on one of the antique columns in the Piazza di Pietra. The explanation is that in days when Rome was a mass of ruins, huts used to be erected against the remains of the temples, and from the roof of one of these some Christian inhabitant may have carved the symbol of his religion on the Pagan column. Under the heading "Ramblings of an Antiquary" Mr. George Bailey gives an account, with some sketches, of the old hall at Mickleover, Derbyshire.

In *Feilden's Magazine* Dr. Drysdale substantially reproduces the paper he read recently to the Institution of Electrical Engineers. We think his method is open to the criticism that the same information about the magnetic qualities of the iron could be obtained very much more easily by a pocket-charm compass. Until Dr. Drysdale gives definite information as to the accuracy of the method it is unlikely that experts will go to the trouble of drilling such elaborate holes in the iron to be tested. When rough comparative tests only are desired there are plenty of simple laboratory methods available. In the same issue Professor H. Smith writes a valuable article on "The Mathematical Laws Governing the Development of Profit in Industry and Commerce." The moving cause of the article is that, while formerly managers of works were, for the most part, the men who furnished the money with which to run them, in the present day the holding of the capital has become gradually divorced from the skilled knowledge that directs it, and the investor has no technical acquaintance with the work by help of his capital. The object of the article is to put in algebraic form a method of estimating the proportion of outlay to return, and demonstrating this by graphic curves of averages; in short, to reduce investment in works to a scientific law. Another article in the issue is on "Recent Developments in Lighthouse Engineering."

Mr. Isaac D. Parsons contributes an interesting article on the economy of "Isolated Electric Plants" to the *Engineering Magazine*. He gives tables showing the comparative cost of public and private supply of electric power to residential flats, hotels, and clubs in New York. In nearly every case it is shown that there is a decided economy in generating electricity from a private plant. Even when the plant is small and the cost of the electrical energy comes to much the same as if it were taken from the mains of a supply company, yet the waste steam can be used for heating purposes, and hence the gain is on the side of the private supply. Mr. Parsons considers that if the Central Station could supply steam for heating as well as electricity for lighting, then private plants would very rarely be more economical. This may be the case in New York, but in this country, where gas engines can be worked economically, his conclusions will have to be considerably modified. It seems to us that the most economical solution is to use a combined supply that is to have a small private

plant always working at its maximum efficiency and to take an additional supply of energy from the mains of a supply company to help carry over the maximum demand. We know of one case in London where this is done with most satisfactory results. In the same number Mr. S. F. Walker describes the modern electrical appliances used in shipbuilding yards. The use of electrical driving enables belts to be dispensed with, and so the whole of the machine-shop can be swept by means of a crane without the necessity of having all the machines in one line. He points out that there is a limit below which it is not wise to multiply motors. Heavy machine tools which require four or five horse power are better driven separately, but tools making a small demand for power are often more economically driven from a line of shafting actuated by an electric motor. In the same issue Professor Boyes continues his valuable and interesting analysis of various "Practical Applications of Reinforced Concrete," with numerous diagrams. The present article deals mainly with the Cottançin, Bonna, and Hennebique systems. The first-named, which has already been described in our columns, appears to us to be better suited for temporary structures, such as exhibition buildings on a large scale, than as a method of permanent building. The system has been employed in the new church of St. Jean, at Montmartre, with a result that we understand has caused great dissatisfaction in the artistic world of Paris; and judging from the illustration given here, we should say with very good reason. The Hennebique system appears to have been used with much success in some large engineering structures, and in a portion of the buildings of the late Paris Exhibition.

The *Quarterly* contains an important article on "Mantegna," in which the writer commences by remarking on the present tendency to the study of early periods both in regard to Greek and to Renaissance art, which he attributes to the same cause—there is a problem about it: we know less about the art and the artists of these early periods, and there is a promise of fresh discovery, which "acts as a gymnastic for the æsthetic faculties." The author condemns Morelli's too practical and superficial method of detecting the work of a particular master by certain persistent forms of ear and hand, as open to a great deal of misuse and leading to wrong attributions; on the other hand, he declines, and we think rightly, to accept the late Charles Yriarte as a critical guide in the attribution of Mantegna's works. Yriarte was an eloquent and picturesque writer on art, with a certain basis of study, but who was really more concerned with æsthetics than facts, and (like other French writers on art) was rather apt to assume as true what it pleased him best to believe. Herr Kristeller's work, which has been translated into English by Mr. S. A. Strong, is recommended as written with a more serious sense of responsibility, his book, along with those of Berenson and Miss Cruttwell, forming the main occasion of the article. Those who are interested in the works of this peculiarly individual and suggestive painter, whose solemn and bronze-like figures have in painting something of the quality of Dante in poetry, will find the article a useful *résumé* of the subject and of the quarters in which to see the best information with regard to it.

The *Monthly Review* contains a rambling article on "Art and the Public Money," by Mr. Alexander J. Finberg, the main thesis of which seems to be that art is a matter of usefulness rather than of enjoyment; that we have never had any attempt at a complete and logical analysis of works of art, to discover what kind of art is most useful and helpful to the nation; and that until that is done "no Government would be justified in spending one penny of public money in the direct support of any kind or branch of fine art." Greater nonsense we never read. Art cannot be subject to analysis like science, or to defined rules of what is good or bad; nor is art for use but for intellectual enjoyment, the nature of which also is such that it can only be felt and not defined. What Government can do for art is simply to afford as much opportunity and encouragement as possible to the production of works of art on a great scale—as the French Government does, and as ours unhappily does not. From this article we turn with satisfaction to the admirable and closely reasoned one on "British Industry and the Wage System," by Mr. Ralph Neville, K.C., who sums up, as other writers have recently done, in favour of co-operation or profit-sharing as the real road out of the present difficulties—the one way to give an incentive to the best exertion on the part of the artisan; but in the course of the article he draws attention to some points in connexion with the relations of labour and capital which are often overlooked. The article is one worth the attention of all who are practically interested in the subject.

The *Pall Mall Magazine* opens with an article on "The Great Queen's Monument," in other words, on the design for the Victoria Memorial, by Mr. Frederick Wedmore; and an excellent piece of architectural criticism in popular form it is; we do not think that we can find anything to question or to differ from in it. Magazine articles on architectural subjects are frequently so exceedingly weak and inadequate, that it is gratifying that in the case of this important competition the general reader has had some really sound architectural criticism offered to him. The article is illustrated by excellent sketches of different portions of the various designs, executed by Mr. Hedley Fitton. The article "Hunting for a Planet" is an exposition by Professor George Forbes of the methods employed in searching for a planet or a comet suspected to exist but not yet seen—including, of course, a reference to the specially interesting history of the discovery of Neptune. We gather that there is now a suspicion among astronomers of a further possible planet beyond the orbit of Neptune.

Mr. Herbert Paul's article in the *Nineteenth Century*, on "Art and Eccentricity," is misleading in its title, as it is really a literary article, and has little or nothing to do with "art" as we in these pages understand the term, except that the criticism against a disagreeable and inartistic realism in works of imaginative literature may be applied also to much in modern art. Mr. Percy Macquoid contributes an article on "The Collecting of Old Silver Plate." It is to a great extent an article of warning to less learned collectors as to the extensive manufacture of forgeries. To forge English plate of the seventeenth and eighteenth centuries is stated to be both a very easy and a very extensive branch of industry. The work of forging plate of earlier periods requires a mind of a higher order:—

"The French craftsmen have for some centuries proved themselves without rivals for dexterity and accuracy of finish in all brances of metal work; when their strong perceptions of grace and beauty, together with a correct archæological knowledge, are devoted to the art of forging, the deception is not only most difficult to detect, but the articles produced are often very beautiful. From these sources some remarkable frauds in silver work purporting to be of the fourteenth, fifteenth, and sixteenth centuries have in the last fifteen years found their way into both museums and private collections. I purposely withhold names, but the forger, his agents, and the victims are now fairly well known. As a rule, some portion or other of the object is original and of the presumed date of the whole, the applied ornament is so in many cases, having been easily acquired off some unsaleable ecclesiastical relic. In a cup, the general structure is usually built up out of some small vessel, unimportant in value, but possessing the necessary quality of old hammered silver; after being altered to the desired form, the requisite engraving and decoration are skilfully executed, portions of applied ornament are added, enamelled armorial bearings are introduced and partly obliterated, the whole is gilt after a recipe of the Monk Theophilus, and finally the finished article is either buried in the earth or subjected to certain acids which quickly oxidise and eat away portions of the surface. After clever manipulation the piece has all the appearance of great age; it is then given a bogus pedigree, in which a Duke of Burgundy and a Spanish convent generally figure, and all is ready for the unsuspecting purchaser into whose hands it passes at a very high price and with a great deal of involved mystery. Some of these forgeries are exceedingly beautiful, and prove that the man who made them is capable of executing the finest metalwork, but the exceptionally high prices he can obtain for them as antiques offer too much temptation for him to acknowledge them as merely copies and his own work of the present time."

In the *National Review* Mr. F. Inigo Thomas writes a short article "On Gardens," which is mainly a brief *résumé* of the view of the subject usually taken of late years by those who look at the garden from the artistic point of view. Mr. Thomas mentions, among other things, the deficient sense of proportion nowadays as to the comparative outlay on house and garden. In old days, a man who spent 10,000*l.* on a house would hardly count on the garden costing less than half that amount. In the present day an expenditure of 500*l.* on a garden for a house on that scale would be unusual.

The *Westminster Review* contains an article by Mr. H. Seal, "A Hint to Ictinus," an extraordinary compound of egotism and absurdity, the main thesis of which is that the world is tired, or ought to be, of architecture dealing with level floors and vertical lines, and that he, Mr. Seal, is prepared to carry out a new style in which all the lines shall be irregular and the floors in hills and vales, &c., for the attainment of the true picturesque of architecture. It is a really remarkable example of the kind of rubbish on architectural subjects which literary editors will admit into a magazine.

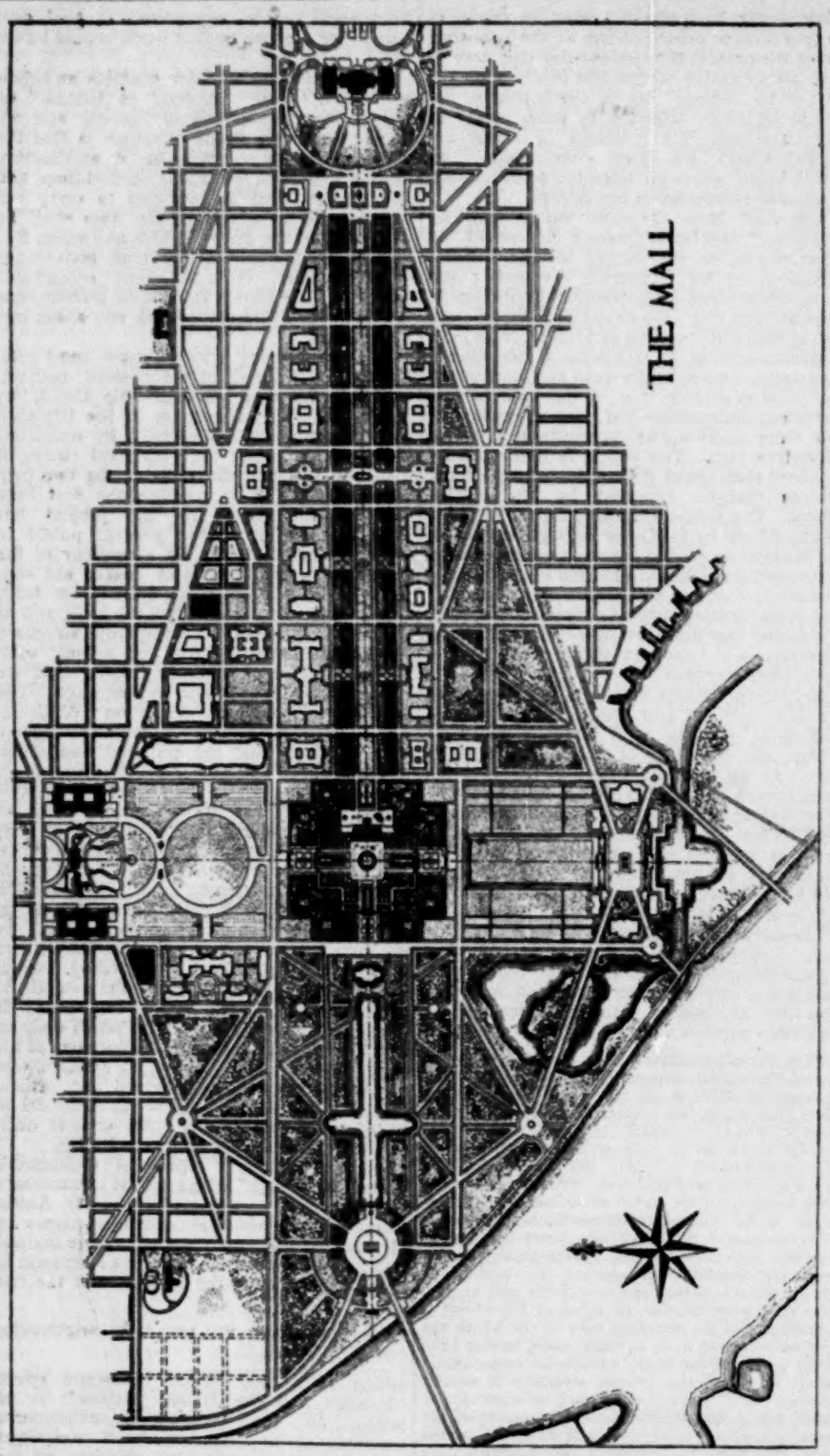
Scribner contains a long article, most interesting and valuable at the present moment, on "The Proposed Isthmian Ship Canal," by Mr. W. H. Burr, a member of the Isthmian Canal Commission; illustrated by numerous views of places on the two rival routes, a map, and sectional diagrams of the two proposed canals. It is perhaps the first time that full information on the subject has been brought before the general public in an authoritative form. As a member of the Commission, Mr. Burr is of course not concerned with recommending (publicly at least) either route; he merely gives the facts, and at the close of the article an impartial summary of the considerations for and against each route, which is of so much interest that we have reprinted it in full on another page. The same issue contains an article on "Washington—A City of Pictures," in which we cannot help thinking that the pictorial and architectural effect claimed for Washington is somewhat exaggerated by means of the style of execution of the illustrations, in which all details are softened off into a kind of hazy effect which lends enchantment to the views. Many things look picturesque in a mist which do not look so in a strong light. However, the illustrations, whether flattering or not, are at all events very picturesque in themselves. In the same issue is a short article on the work of a Russian sculptor Paul Troubetzkoy, one of the most gifted and powerful of the naturalistic school of sculptors, and who in this sense bids fair to rival Dalou; only the French sculptor is not a naturalist alone; that is only one of his sides. Troubetzkoy's mother, it appears, was an American, and he received his artistic education in Italy; but he may nevertheless be called a Russian sculptor; his style is decisively northern and by no means Italian.

Harper contains a reprint of Goldsmith's "Deserted Village" with a critical commentary from the very competent pen of Mr. Austin Dobson, and a series of new illustrations by Mr. Abbey; the latter seem to us more marked by a realistic cleverness than by a sentiment in keeping with that of the poem, except the one of—

"The decent church that topp'd the neighbouring hill,"

which is a fine bit of landscape effect. "Rapallo and the Italian Riviera" is an article on the picturesque architectural elements of the neighbourhood described, with some very good little sketches by the author. "Man and the Upper Atmosphere" is a short article by Dr. R. Süring, of the Meteorological Institute, Berlin, giving a summary as to what is known or has been experienced in regard to the possible heights in the atmosphere to which man may safely ascend; an article obviously written with a view to the possible further development of ballooning. An article on "Belgium's Art Crusade," by Mr. C. Mulford Robinson, should be of some interest to our readers; it relates to the history and achievements, so far, of the "L'Œuvre Nationale Belge," a society formed a few years ago in Brussels with the object of promoting picturesqueness and beauty in city architecture and decoration in the Belgian capital. The "L'Œuvre" has instituted competitions for the best designs for street houses, street signs, &c., &c. How far the Society obtains official support we do not quite gather; but it appears to have made itself more or less an artistic influence. Might not some such institution be tried in London?

The *Century* contains an article on "The Building of a Cathedral," by Mr. Roger Riordan, which is concerned with the New York Cathedral, in progress from the designs of Messrs. Heins and La Farge, but which has as yet only been carried so far as to



Proposal for Avenue between Government House and the Washington Monument, Washington. (From a plan published in the "Century Magazine.")

permit of service being held in the crypt. The view of the structural or engineering portion of one of the four great arches intended to carry the tower, as it now stands with the scaffolding around it, is impressive, and reminds one of the old plates of St. Peter's in progress. No plan is given. The illustrations of the exterior and interior as contemplated show that the exterior will be a massive and striking example of revived Gothic, with an immense central tower, sixteen-sided on plan, though it produces the general effect of being square, owing to the accentuation of four of the angles by turrets. The view of the interior of the choir is not by any means satisfactory. It is an imitative Romanesque round arched style, mixed up with florid details suggesting later Gothic, and out of keeping with the general design. It is not an originality of much value which is attained by mixing up imitative details belonging to different epochs of Mediæval Gothic. The scale of the building will make it impressive, but we think it will be a pretentious building, and not such as to satisfy the world's maturer judgment. The bases of the interior walls, we are told, will be faced with polished red jasper, above which will be a deep moulding of dark green serpentine. The rest of the interior will be of a light buff limestone from Frontenac (Minnesota), said to be rather like Caen stone, but harder. No prediction is made as to its probable date of completion. The article which follows it, on "The Uses of a Cathedral," by the Bishop of New York, should be read in connexion with the subject; it is a beautifully written plea in favour of the spiritual value of a great cathedral, even for those who differ intellectually from the faith for which it was erected. In the same number are two short articles on the proposed improvement in the laying out of Washington architecturally, by Mr. D. H. Burnham, a member of the Washington Improvement Commission, and Mr. Charles Moore. From a plan given, the leading idea is apparently to form an immense decorative or State avenue from the Washington Monument to the Capitol. This was an old idea, but unfortunately the builders of the Washington Monument, owing to some difficulty about the foundations, placed the Monument out of axis with the Capitol, and the intervening avenue (called the Mall) has since been partially intruded upon by railway tracks. The present scheme is to clear this ground, lay it out in ornamental gardens, and to correct the mistake as to axis by laying out a new and narrower avenue—an avenue within an avenue, so to speak, on a line slightly oblique to the outer boundary lines of the Mall, and axial with the Capitol and the Monument. Both will of course be a little out of square with the avenue, but not so as to be noticeable. The ornamental parterres on each side of the new avenue will also be out of square, and will be wider on one side than on the other; but they cannot be seen together except on a plan, and judicious laying out can mask the irregularity of line in the separate parterres. Beyond the Monument will be a long canal with transept branches, continuing the axial line. We give a reproduction of the plan as given in the *Century*. It is a fine and a cleverly conceived scheme.

The *Revue Générale* opens with an article on the interesting and rather new subject "L'Industrie dans la Grèce Ancienne," a review of what is described as a very important book on that subject by M. Francotte, who has devoted many years to the study of the subject, which has led him to the conclusion that though the Greeks had what are now called "industries," their influence on the social life of the country was very slight. The three principal industries of ancient Greece the author considers to have been metallurgy, ceramics, and wool-working, and that the principal centres of industry were Athens, Corinth, and Delos; but that the wealth of the country depended rather on commerce than industry. The *Revue*, however, has done service in calling to what appears to be a valuable and interesting book.

The *Gentleman's Magazine* contains an article by Mr. John Stafford, "On Senlac Hill," which is an attempt to realise, on the ground, the progress and events of the battle, so momentous for this country, in which William conquered Harold. The article is well written and of considerable interest.

Among articles in *Knowledge* is a brief history of the development of Fahrenheit's Thermometer, by Sir Samuel Wilks. An article on "The Use of Hand Telescopes in Astronomy" may be of practical interest to those who wish to observe the stars and cannot afford a mounted equatorial.

The quarterly *Journal of the Sanitary Institute* contains the papers read at the conference on Water Supply and River Pollution, with the important discussions which took place on the subject.

THE ARCHITECTURAL ASSOCIATION: DISCUSSION SECTION.

THE eighth meeting of the Discussion Section of the Architectural Association for this session was held at 56, Great Marlborough-street, W., on the 7th inst. Mr. R. H. Weymouth was in the chair, and a technical paper on "Stained Glass" was read by Mr. J. Dudley Forsyth, which is printed in full on another page. There were illustrations of Mr. Forsyth's own work, and not the least interesting part was that devoted to demonstrations in "staining" and "leading."

The discussion was opened by Mr. W. E. Davis, who proposed that the best thanks of the meeting be given to Mr. Forsyth for his kindness in preparing such an excellent paper. He agreed with the author that it was absolutely essential for the production of a harmonious work that the artist should study the surroundings before making his design.

The vote of thanks was seconded by Mr. F. C. Eden, who said he had listened with great pleasure to the most instructive paper Mr. Forsyth had prepared.

Mr. Prest followed, and said it was a great pleasure to him to have been present and heard Mr. Forsyth's paper, from which he had learnt many things. He was quite in accord with the author as to the necessity of studying the surroundings of one's work. He did not agree with some of the speakers in their condemnation of canopy work, as he thought it was valuable when properly used, especially in Perpendicular work. He thought it very interesting to have to fill in the most intricate traceries of windows. He was pleased

to see in Mr. Forsyth's designs the introduction of scrolls and good black lettering.

Mr. H. H. Statham said he thought the art suffered from realism and the use of perspective, and on the latter account objected to canopy work, unless treated entirely *en silhouette*, as well as to pedestals and floors in perspective. The effect of colour rather than figure drawing should be the aim of the artist in stained glass, and symbolism rather than realism.

Mr. Tucker thought the early methods of working in stained glass were the right ones, and was sorry to hear the "new art"—as it had been described—so adversely criticised. He thought they could not do better than follow the idea exemplified in the working of a good church banner, and that the flesh tints should be lightly touched in. He quite agreed that the effects in Westminster Abbey were most distressing.

Mr. Booer said in the old days the glass was full of imperfections, but since the establishment of Hartley's works at Sunderland, which were largely influenced by A. W. Pugin, we are now able to obtain the most perfect material. The varying thicknesses of the glass was part of its beauty. He called attention to the first use of bottled glass in Mr. Prior's church at Framlingham. He thought we ought not to use the American opalescent glass, as it was unsuited to our climate. It was most interesting to work out a design by using small pieces of stained glass and gumming them on a sheet of paper.

The Chairman said they had all listened with great pleasure to Mr. Forsyth's paper. He thought it most essential that the stained-glass artist should have a good eye for colour. It was the duty of architects to design good buildings, and to give the stained-glass worker a free hand with the windows. He thought they handicapped their work by taking it up from a business point of view.

The Chairman then called upon Mr. Lewis F. Day, the Special Visitor of the evening. Mr. Day said he thought they were deeply indebted to Mr. Forsyth for the extremely interesting paper, and he had much pleasure in being present. He thought plating and enamelling should be used with great discretion, and the use of aciding tended to fritter away the design. The use of soft flux was the cause of bad work, which was the fault of some of Morris's work. With regard to the scale of the figures, he thought the body should be lengthened so as to correct the effect of foreshortening. He strongly objected to the figure fetich and the use of canopy work, the latter always suggesting cheapness to his mind. Stained glass was a barbaric art, and by the introduction of figure work the art was ruined. The story of a window had no influence on him; he only admired the beauty and glory of the colour. He quite agreed as to the necessity of studying the style of the building, and thought it inartistic not to do so.

The vote of thanks was made to include the Special Visitor, and, having been put to the meeting, was carried with acclamation.

Mr. Forsyth having replied, the meeting terminated.

It was announced that the next meeting would be held on Friday, February 21, when Mr. F. C. Eden will read a paper on: "The Organ: Its Proper Position and Architectural Treatment."

THE PANAMA AND NICARAGUA CANAL ROUTES.

UNDER the head of "Magazines and Reviews" we have referred, on another page, to the remarkable article on "The Proposed Isthmian Ship Canal" in *Scribner's Magazine*, written by Mr. W. H. Burr, a member of the Isthmian Canal Commission. The following is his impartial summary, at the close of the article, of the heads of the case for and against each of the alternative routes. The question of the canal is one, we need hardly observe, of interest to the whole civilised world:—

"Concisely stating the situation, its main features may be expressed somewhat as follows:—

Both routes are entirely 'practicable and feasible.'

Neither route has any material commercial advantage over the other as to time, although the distance between our Atlantic (including Gulf) and Pacific ports is less by the Nicaragua route.

The Panama route is about one-fourth the length of that in Nicaragua; it has less lockr, less elevation of summit-level, and far less curvature, all contributing to correspondingly decreased risks peculiar to the passage through a canal. The estimated annual cost of operation and maintenance of the Panama route is but six-tenths that for the Nicaragua route.

The harbour features may be made adequate for all the needs of a canal by either route, with such little preponderance of advantage as may exist in favour of the Panama crossing.

The Commission estimated ten years for the completion of the Panama Canal and eight years for the Nicaragua waterway, but the writer believes that these relations should be exchanged, or at least that the time of completion for the Panama route should not be estimated greater than for the Nicaragua.

The water supply is practically unlimited on both routes, but the controlling or regulating works, being automatic, are much simpler and more easily operated and maintained on the Panama route.

The Nicaragua route is practically uninhabited, and consequently practically no sickness exists there. On the Panama route, on the contrary, there is a considerable population extending along the entire line, among which yellow-fever and other tropical diseases are probably always found. Initial sanitary works of much larger magnitude would be required on the Panama route than on the Nicaragua, although probably as rigorous sanitary measures would be required during the construction of the canal on one route as on the other.

The railroad on the Panama route and other facilities offered by a considerable existing population render the beginning of work and the housing and organisation of the requisite labour force less difficult and more prompt than on the Nicaragua route.

The greater amount of work on the Nicaragua route, and its distribution over a far greater length of line, involve the employment of a correspondingly greater force of labourers for an equally prompt completion of the work.

The relative seismic conditions of the two routes cannot be quantitatively stated with accuracy, but in neither case are they of sufficient gravity to cause anxiety as to the effects upon completed canal structures.

Concessions and treaties require to be secured and negotiated for the construction of the canal on either route, but the Nicaragua route only is free from the complications of prior rights and concessions.

In view of the unreasonably high price put upon their rights and property by the New Panama Canal Company the Nicaragua route must be taken as the most 'practicable and feasible' for the construction of a ship canal by the United States Government. This decision may ultimately be affected by further negotiations or by the reasonableness of terms under which concessions may be secured or treaties negotiated with the respective Central American governments, and the promptness with which these ends may be attained."

COMPETITIONS.

ART SCHOOL, HULL.—In the recent competition for a new art school at Hull the first premiated design was that sent in by Messrs. Lanchester, Stewart, and Rickards, Vernon-place, Bloomsbury-square, London, W.C. The second premiated design was that by Messrs. Spencer W. Grant and James A. Bowden, Finsbury-pavement, London, E.C.; and the third by Mr. Francis J. Smith, Parliament Mansions, Victoria-street, Westminster, London, S.W.

SCHOOLS, HORNSEY.—In the limited competition for the new Mattison-road Schools, for the Hornsey School Board, Mr. Robson, the assessor, placed first the joint design of Mr. Arnold Mitchell and Mr. Alfred Butler. The second premium was awarded to Messrs. Hall, Cooper, & Davis, and the third premium to Mr. G. E. T. Laurance. Messrs. Mitchell & Butler have been appointed architects to the new buildings, and the work is to be proceeded with at once. The school is of exceptional importance, comprising four large blocks. In addition to the ordinary elementary school buildings, there will be a higher grade school with lecture-room — art and science class rooms, physical and chemical laboratories; also a manual instruction room, cookery and laundry rooms, housewifery rooms, and a swimming-bath.

TRADES COUNCIL BUILDINGS, LEEDS.—The new buildings of the Leeds Trades Council, in Upper Fountaine-street, are now approaching completion. The buildings, which are being erected by the Leeds Builders Company, according to the designs of Mr. W. S. Braithwaite, architect, comprise a hall capable of accommodating 450 people, a smoke-room and bar, with a billiard-room (two tables), reading-room, lodgerooms, and offices. The new buildings, which are constructed of brick with stone dressings, will cost some 6,000*l*. They are to serve the purposes of a club.

ARCHITECTURAL SOCIETIES.

NOTTINGHAM ARCHITECTURAL SOCIETY.—At the Victoria Station Hotel on the 6th inst. the annual dinner of the Nottingham Architectural Society was held. Mr. A. Marshall (President) was in the chair, and Mr. A. W. Brewill (Vice-president) in the vice-chair. The loyal toasts having been honoured, Mr. R. Evans, J.P., gave the "Health of the Mayor, the Sheriff, and the Corporation of Nottingham." He said the architectural profession had many transactions with the Corporation, and it was impossible to say how much they owed to the goodwill and influence of the Mayor and Sheriff. Mr. Evans then paid a tribute to the excellent manner in which the Corporation officials did their work. The Mayor (Councillor E. N. Elborne, J.P.), in his reply, said he was pleased to see that the architects worked well with the Corporation officials, whose duties were sometimes onerous. He hoped that before long the architects would be strictly entitled to call themselves a profession. He often wondered what standard of knowledge entitled a man to be called an architect. He thought all architects should go through a proper period of training, because, if it perhaps would not make an architect, it would be a sort of guarantee that they were qualified for the positions they held. He congratulated the architects of Nottingham on the great strides they were making in the character of the buildings they were putting up in Nottingham. Concluding, he said the architects could do a great deal towards solving the problem of the housing of the poor by providing some practical scheme. The Sheriff (Councillor E. G. Loverseed) also briefly responded. He hoped that when the Corporation took up schemes for the improvement of the city they would try to get uniformity of design. "The Master Builders' Association" was proposed by Mr. A. N. Bromley, who said there would always be in a profession like theirs men who were not really architects. While such a state of affairs existed their profession would always be open to disparaging remarks, which, however, he did not think were shared by the general public. So far as the builders of Nottingham were concerned, the architects had the greatest respect for them. A good builder was an architect's greatest comfort. Referring to the prices for work which prevailed in America and England, he said the master builders should inquire into the extraordinary difference that existed. Mr. H. Vickers (President of the Nottingham Master Builders' Association) replied. He said their Association was doing good work, and so long as they conducted it on the lines laid down there was no reason to fear but that it would be a benefit, not only to them but to the architects. Mr. A. E. Heazell proposed the toast of "The Visitors," and Dr. Boobbyer replied. The "Health of the President of the Society" was proposed by Mr. H. Walker, and the President, Mr. Marshall, responded.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—At the meeting on the 5th inst., Mr. Thomas Blashill, Vice-President, in the chair, Mrs. Astley exhibited a very elegant glass goblet of Venetian manufacture, in perfect condition, believed to be of the fourteenth century; and the Rev. H. J. Dukinfield Astley two snuffboxes, one of silver, the other of copper, the lids having figure subjects in high relief, Flemish in character, probably of late seventeenth century date. Mr. Patrick submitted for exhibition, on behalf of Mr. Sanders, of Bristol, an article called a "riff," an instrument for sharpening the scythe, made of cross-grained oak, grated on each side, and powdered with a coarse grit sand, very hard. It is an interesting survival of an ancient type still in use at the present day in the district of Glamorgan, which was once the domain of the "Kings of Gower." The grit stone sand is found in the neighbouring hills, but those who know where to find it keep the deposits a secret, and when a sufficient supply has been obtained the place is covered up. The Chairman remarked that a somewhat similar instrument, but differing in shape, is still used in Yorkshire, but is there called a "strikel." Dr. W. de Gray Birch gave some particulars of the little-known, but one of the finest specimens of a fortified ecclesiastical building in Great Britain, "Gwnny Priory, Glamorgan," the history of which is so well given in the valuable work just published by Colonel Turbervill.

ROYAL ARCHÆOLOGICAL INSTITUTE.—At the General Meeting on Wednesday, the 5th inst., Judge Baylis, K.C., in the chair, Viscount Dillon read a paper on "Horse Armour," in which, after describing the various parts of the protection for the animal, he noted several instances in which such protections made of metal or of cuir bouilli were mentioned in memoirs, wills, &c. The chief examples of existing armour of this class in our own and foreign collections were described, and the nomenclature of the different parts in French, German, Italian, and Spanish was given. The existence of a portion of cuir bouilli horse armour in the Tower of London, and the artistic treatment of various metal horse armours in Europe, notably that of the Elector Christian II., at Dresden, were referred to. The fact of the Shoshones and Comanche Indians having used leather horse armour was also noticed.—Mr. J. H. Round then read a paper on "Castle Guard," in which he claimed that, although one of the earliest of feudal burdens, its commutation for a money payment had enabled it to survive the abolition of feudal tenures, and to continue till recent times. He suggested that the rate at which it was commuted afforded an indication of the date at which the commutation was effected, and he dealt with the system on which the guards of the chief royal castles were originally provided for, laying stress on the great distance from the castle at which the manor owing guard service often lay. He then dwelt on the value of castle guard tenure as an instrument of research in local history, pointing out that it enabled one, at times, to trace the history of a manor from the Conquest and to prove identities otherwise obscure. Sir Henry Howorth, Mr. Green, Mr. St. John Hope, and Mr. Oswald Barron took part in the discussion.

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—At a meeting of this Institution, held at the Westminster Palace Hotel on the 7th inst., the Chairman, Mr. Percival Marshall, presiding, a paper on "The Electric Passenger Elevator" was read by Mr. William J. Cooper. The principal requirements of an effective electric elevator were stated to be safety, reliability, effective control, economy, and compactness, and were divided into two clearly defined groups, having reference to (1) the winding machine, in operation while the elevator was in use with the safety devices, which were usually inactive, but had to come into play as soon as any portion of the hoisting apparatus failed or got out of order; (2) the car with its safety gear moving up and down the hoistway. The chief features of an ordinary gear were the armature of a motor coupled to a worm with ball or collar bearings to take the end thrust of the worm; a worm wheel submerged in an oil bath, and fixed in a suitable bracket, entirely protected from the action of dust or grit; a grooved winding drum or veed wheel fixed to the worm wheel or mounted on the same shaft. Such machines were almost exclusively operated on the over balance system. This had the advantage of economy of power by making the system balanced when the average load was in the car, in which case the elevator had no gravity work to perform, and resulted in the most economical type of hoisting apparatus. The electric motor and winding machinery could be erected either at the top or at the bottom of the hoistway as desired. If fixed at the top, one face of the drum could be plumb over the centre of the car, and the other face plumb over the counterbalance weight. Under special circumstances, the machinery might be placed at a distance from the hoistway, and the ropes guided over diverting sheaves, but it was obvious, however, that the fewer sheaves employed, the less would be the wear on the ropes and loss by friction. The arrangement of placing the machinery at the top of the hoistway was particularly adapted to the electric elevator, as the current was easily conveyed by the cables to the motor and controller. The author dwelt on the importance of an effective form of brake. It might be mechanically operated from the switch gear shaft by the controlling rope, or be an automatic magnetic solonoid brake, the type now generally adopted. A solonoid and magnet of small dimensions could be made to give a pull of 500 lbs. to 600 lbs. through one half inch. To meet the severe demands of the elevator, motors of a somewhat distinct class had been introduced, constructed so as to need little attention. A comparatively small motor could be used, as in all cases the maximum load was of short duration, the motor standing idle for at least half the time. Shunt motors were self-regulating if the potential was constant, and were now almost invariably adopted, but with about 10 per cent. of series winding added on the field magnets to enable the motor to develop a powerful torque at the moment of starting. Considerable ingenuity had been expended over the starting and controlling switches, the operation of which might be effected in various ways, either by a hand rope, a hand wheel, a lever, or by a push-button device. The controller had to perform three general functions:—1. Make and break the current for motor, and reverse the armature circuits. 2. Cut out the starting resistance automatically, and with fixed steps. 3. Cut in the resistance for stopping, and apply the brake. The push-button controller was to be recommended for private houses, or places where an attendant was not required, the elevator being operated by the passenger. The machine was of the ordinary drum type, the controlling being entirely electric and operated by simply pushing a button. Various automatic safety devices were used in connexion with the working controller or push-button switches. These devices were operated by both the car and the hoisting machine, to cut off the power and apply the brakes at the limits of the car's travel. The safety apparatus and the bottom guide shoes were attached to the bottom of the car, which was surrounded by the girdle irons, or a steel channel crown bar of special section for lightness, securely connected to the under frame by side bolts fitted with adjustable guides of gun metal or cast-iron, and movable guide sheaves for the hoisting ropes to pass over to the bottom of the car to prevent undue wear. To guard against the car falling unretarded to the bottom of the hoistway, in the event of the hoisting ropes breaking or becoming unshipped, there were several types of safety gears employed, attached to the bottom or platform of the car, and arranged to operate by gripping the fixed guide posts or backings, either by the action of the compressed springs or levers, or by the combination of springs and centrifugal governor. Reference was made to accidents arising from the insecurity of entrances to the hoistway. An electrical locking apparatus should be fitted to all electric elevators, by which all the hoistway doors or gates would remain locked except when the car itself was in position at the landing, and stationary. The opening of any door was arranged to break the main circuit of the motor, and it was impossible for the motor to be started again until the gate was shut and locked and the circuit remade. It was shown that electric elevators of the type described were safe, reliable, easily controlled, and noiseless, while economy was claimed in cost of maintenance and power used. In most towns and cities the cost of electrical energy for power purposes was between 2d. and 4d. per B.O.T. unit. The first cost in many cases compared very favourably with that of hydraulic or other elevators. The electric elevator was adapted to standardisation. The whole of the hoisting gear could be kept in stock, and ready for assembling when an order was received, and the voltage, speed of travel, and load known. The length of the travel did not enter into consideration so far as the driving gear was concerned, the motor having simply to run somewhat longer, and the increased length of travel was thereby attained. In conclusion, the author pointed out that the power or current used in an electric elevator was in direct proportion to the number of persons or load carried, while, with one worked hydraulically, it was necessary to fill the cylinder with power water whether the load was light or heavy.—A discussion followed the reading of the paper, and a vote of thanks having been passed to the author, the proceedings closed with the announcement of the ensuing visit on February 22 to the new baths and wash-houses at Fulham, and of the next meeting on March 7, when a paper on "The Use of Engineering Models" would be read by Mr. Percival Marshall.

THE STUDENT'S COLUMN.—Our Student's Column article this week is unavoidably held over.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Mr. A. M. Torrance, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Camberwell Borough Council 3,000*l.* for various purposes; St. Pancras Borough Council 500*l.* for street improvement; and Westminster City Council 2,371*l.* for street improvement.

The Works Department.—Mr. Austin asked the Chairman of the Finance Committee whether an offer had been before the Committee to carry out the jobbing work of the Council at 18½ per cent. below the Council's schedule.

Lord Welby said the question had been raised as to whether such an offer would be entertained, but he was unable to say that the offer was actually before them. There was a question raised that the War Office Contractor should undertake the work.

Mr. Burns, M.P., asked whether in the event of such an offer being made the committee would take steps to inquire whether the offer was a *bonâ-fide* one, and if loss was being guaranteed against, from a pool, by the contractors who wanted to break up the Works Department.

Lord Welby said full investigation would be made.

Cost of Brickwork.—The Finance Committee submitted the following report:—

"An article appeared in the *Times* newspaper of November 18, 1901, on 'The Crisis in British Industry,' and the effect of trade unionism on the trade of the country. In the course of his article the writer referred to the output of bricklayers employed on the construction of works by or for the Council. He said—'The *maximum* of 400 bricks per day is the "recognised" limit for dwelling-houses, shops, and business premises built by a private contractor. In the case of public buildings, and especially London County Council and London School Board work, the limit is considerably less.' He added that certain bricklayers had stated that 'The London County Council limit is 330 bricks the day. That is what they consider a fair day's work.'

If this passage means that the Council has accepted 330 bricks as a fair day's work, that statement is not correct. The manager of works, who is responsible for the execution of works entrusted to the department, assures us that he has never recognised any such limit, and such a suggestion has received no countenance from us.

We have made careful inquiries as to the accuracy of the statements which we have quoted, and we have been furnished with the opinion of several London firms of contractors as to the present and past output of bricklayers employed by them. There is a difference of opinion as to the number of bricks actually laid, but we find a general agreement that the number laid per man per day is considerably less than the corresponding number laid from twelve to fifteen years ago, though it has risen somewhat from the number laid two or three years ago.

The officers of the Council whom we have examined are not altogether agreed as to whether the number of bricks laid by men employed in the Works Department is equal to the number laid by bricklayers employed by contractors. Although we have given the matter our careful attention, the difficulty of obtaining accurate and comparable data has prevented us from arriving at any definite conclusion upon the point.

We have not been able to obtain detailed information with respect to any of the large works completed by the Department, owing to the absence of any details as to the actual cost to the Department of brickwork. We have, however, obtained from the manager of works a rough calculation of the rate on three works recently executed or in course of execution by the Works Department—viz., Perry-vale Fire Station, Battersea-bridge Dwellings, and Seymour and Somerset Buildings. The manager arrives at his results by dividing the total number of rods of brickwork by the number of hours returned as worked in laying the bricks. We conclude from the figures that, taking into account every class of brickwork found in buildings of the above character, the figure of 330 bricks per man per day is considerably below the number actually laid."

Works Manager.—The General Purposes Committee reported as follows:—

"We have had under consideration the arrangements to be made consequent on the retirement of Mr. Adams, the manager of works, and have now decided to recommend the Council to order the issue of an advertisement inviting applications for the position at the salary which at present attaches to the appointment, viz., 1,500*l.* a year. We have also come to the conclusion that in future the supervision of the department should be entrusted

to a Works Committee with a membership of seven in addition to *ex-officio* members; and we propose in due course to submit for the Council's consideration a draft order of reference. In the meantime we recommend—(*a*) That an advertisement be issued inviting applications for the appointment of manager of works, and that the salary to be attached to the position be 1,500*l.* a year as at present. (*b*) That a Standing Committee, consisting of seven members, be appointed for the supervision of the Works Department, and that such committee be styled the Works Committee."

The consideration of the matter was adjourned. An amendment is to be moved to the effect that the salary shall be 1,000*l.*

The Water Question.—A debate on the new Government measure for dealing with the water question lasted for more than four hours. The Water Committee submitted a long report, which concluded with the following recommendations:—

(*a*) That the interests of the people of London in the acquisition and administration of the water supply are so vital that they ought not to be entrusted to a Water Board nominated by seventy-eight different authorities and independent of public control.

(*b*) That it is inexpedient and dangerous that a Board constituted as proposed should have the power to decide by agreement what sum shall be paid to the Companies, or that it should have the right of creating debt or of levying rates upon London.

(*c*) That the Council should endeavour to obtain such amendment of the financial provisions of the London Water Bill, 1902, as shall make it clear that the award of the arbitration tribunal is to represent the fair and reasonable value of the undertaking and is to be determined as a sum of money.

(*d*) That the Parliamentary Committee be instructed to prepare and present a petition against the Bill, and that the seal of the Council be affixed to such petition.

Mr. Henry Clarke moved as an amendment, "That the Council welcomes the introduction into the House of Commons of the Government Water Bill, as affording a reasonable basis for the settlement of a difficult question."

The amendment was lost, and the recommendations of the committee were agreed to by large majorities.

Tenders.—The following tenders were accepted:—

Supply and erection of light ornamental fencing to enclose shrubberies at Horniman Gardens—Hill & Smith, 117*l.* 8*s.* 6*d.*

Wiring, &c., in connexion with the installation of the electric light at the Smack Boys' Home, Lowestoft—Bush & Dryburgh, 103*l.*

The Council adjourned at 7.30 p.m.

APPLICATIONS UNDER THE LONDON BUILDING ACT, 1894.

THE London County Council on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Erection of One-story Shops in Victoria-street, Westminster.

Westminster.—That the Council's resolution of November 19, 1901, sanctioning the erection of one-story shops and an entrance porch in front of Nos. 123, 125, and 127, and Nos. 145 to 169 (odd numbers only, inclusive) Victoria-street, Westminster, be rescinded. That the Council do consent to the erection of one-story shops and an entrance porch in front of a portion of No. 125, Victoria-street, Westminster (Messrs. Z. King & Son for Mrs. M. Hiscox, Mr. J. T. Hiscox, and Mr. R. T. Raikes).—Agreed.

Lines of Frontage.

Marylebone, East.—Buildings on the south-west side of Park-road, Regent's Park (Mr. H. O. Cresswell for the trustees of the Eyre estate).—Consent.

Islington, North.—An addition to No. 58, Yerbury-road, Upper Holloway, to abut upon Wedmore-street (Mr. G. Saint for Mr. G. Welch).—Refused.

Width of Way and Space at Rear.

Westminster.—Certain deviations from the plan certified by the District Surveyor under Sections 13 and 43 of the Act, so far as relates to the proposed rebuilding of the stable at the rear of No. 29, Great Chapel-street, Westminster, abutting on Dacre-street (Messrs. Blyth & Co. for Mr. A. Craddock).—Consent.

Space at Rear.

Holborn.—A building on the site of No. 17, Hunter-street, and No. 21, Compton-street, Brunswick-square, with a portion of the building, not to exceed 30 ft. in height, on part of the open space required by Section 41 of the Act to be provided at the rear of the building (Mr. J. G. Izard for Mr. J. Wyman).—Consent.

Artisans' Dwellings.

Islington, North.†—That the Council do make an order as follows:—Whereas Mr. R. Robertson, on January 11, 1902, under the provisions of Section 42 of the London Building Act, 1894, delivered, on behalf of the Housing of the Working Classes Committee of the Council, at the County Hall, plans of blocks of intended dwelling-houses, to be inhabited by persons of the working class, and proposed to be erected, not abutting upon a street, on a site on the western side of Wedmore-street, Islington, southward of Wedmore-mews. . . . . Now the Council does by this order sanction the said plans so far as Section 42 of the said Act is concerned. . . . .—Agreed.

Hackney, North.—That the Council do make an order as follows:—Whereas Mr. C. Gordon Smith, of No. 56, Cannon-street, E.C., on January 23, 1902, under the provisions of Section 42 of the London Building Act, 1894, delivered on behalf of Messrs. Michell, Goodman, Young, & Co., Ltd., at the County Hall, plans of intended dwelling-houses to inhabited by persons of the working class and proposed to be erected, not abutting upon a street, on a site to the eastward of the mission-hall, on the north side of Stamford-terrace, Hackney. . . . . Now the Council does by this order disapprove of, and refuse to sanction, the said plans.—Agreed.

Width of Way and Projection.

Strand.†—The retention of a stone balcony, with an iron railing, at the second floor level in front of No. 30, Wardour-street, Soho (Mr. W. Hoe).—Consent.

Means of Escape from Top of High Buildings.

St. George, Hanover-square.—Means of escape in case of fire proposed to be provided in pursuance of section 63 of the London Building Act, 1894, on the top story of the northern portion of a block of residential flats on the west side of Harewood-place, abutting on Oxford-street, St. George, Hanover-square (the upper surface of the floor of which story is above 60 ft. from the street level), for the persons dwelling or employed therein (Mr. P. Hoffman for Mr. H. Lovatt).—Consent.

*** *The recommendations marked † are contrary to the views of the local authorities.*

BOOKS RECEIVED.

HISTORICAL INTRODUCTION TO THE COLLECTION OF ILLUMINATED LETTERS AND MANUSCRIPTS in the National Art Library. By John W. Bradley, B.A. (Eyre & Spottiswoode. 2*s.* 6*d.*)

APPLIED PERSPECTIVE FOR ARCHITECTS AND PAINTERS. By W. P. P. Longfellow. (Houghton, Mifflin & Co., Boston, U.S.A. 13*s.* 6*d.*)

LAXTON'S BUILDERS' PRICE-BOOK FOR 1902. (Kelly's Directories, Ltd.; and Simpkin, Marshall & Co.)

A HISTORY OF THE CHURCH OF ALL SAINTS, NORTHAMPTON. By the Rev. R. M. Serjeantson, M.A. (William Mark, Northampton.)

BERMONDSEY: ITS HISTORIC MEMORIES AND ASSOCIATIONS. By Edward T. Clarke. (Elliot Stock.)

A HISTORY OF DESIGN IN MURAL PAINTING. By N. H. J. Westlake, F.S.A. (J. Parker.)

DAWLISH, AND THE ESTUARY OF THE EXE ("Homeland Handbooks" Series). By Beatrix F. Cresswell. (Homeland Association.)

Correspondence.

COMPETITION DRAWINGS.

SIR,—Mr. Foxley, writing in reply to my letter on this subject, says that elaborate drawings are made to appeal to the *promoters* rather than the Assessor in a competition. That may be so, but is it not shortsighted policy—quite apart from the question of its morality? After all, is it not a fact that supersession of an assessor's award is rather the exception than the rule (I fear, by the way, that some of the exceptions have been rather notable)? But, even were it not so, do elaborate designs necessarily appeal to a Committee of laymen? My own experience is to the contrary.

As a rule, laymen find it difficult to grasp even the main lines of a plan, and they are liable to "shy" at section and dimension lines, dotted girders, pipes, &c. They are more at home with the elevations, and may be easily led away by mere trickery and elaboration; but many are alive to their own fallibility in this respect, and others suspect "expense" in elaboration.

ASSESSOR.

COST OF COMPETITIONS TO ARCHITECTS.

SIR,—One is sometimes inclined to speculate as to whether the public really know what large sums are spent by architects in connexion with competitions.

A recent paragraph in a paper in the North of England leads me to call attention to the subject. The paragraph in question stated that eighty-seven sets of designs had been sent in for a School of Art at Hull, and the cost of the building was expected to be about 12,000*l.* Presuming that "perspective views" were admitted, no one who knows the cost of getting up a set of competition drawings would be inclined to doubt that on an average the eighty-seven architects will have been committed to an expenditure out of pocket of something like 30*l.* each.* This means an actual outlay of 1,740*l.* coming out of the competitors' pockets, and as not one of the competitive drawings can be utilised as a working drawing, even the successful architect has to commence the real work *de novo*. A couple of years may probably elapse before a building of this sort is completed, and the architect's commission will amount to 600*l.* (5 per cent. on 12,000*l.*).

The present instance is by no means an uncommon one, and it is not easy, perhaps, to find a remedy; but I ask, Is there any other profession where competitors for work which will bring in 600*l.* to the successful man will spend upwards of 1,700*l.* among them? And this for the chance of one of them obtaining the work, spread over two years!

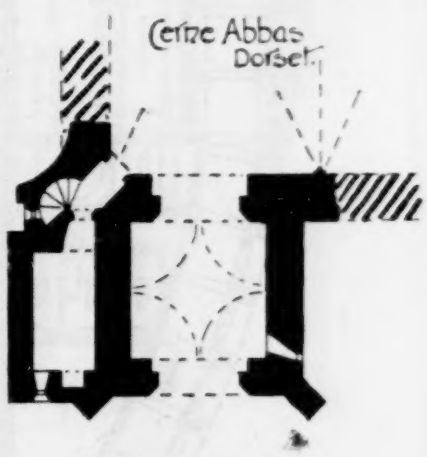
My object in writing is more to call attention to the general facts than to suggest a remedy, which is not an easy thing to do.

At the same time one is tempted to ask that when competitions are necessary, those responsible for them should endeavour to curtail the necessary outlay and expense as strictly as possible. Of course, for "public" work the public should always have the opportunity of inspecting what is submitted, and even this advertisement is sometimes denied to competitors, though I am glad to see that the Hull drawings will be on view. I may say that the writer is perfectly disinterested, and a

NON-COMPETITOR.

GATEWAY AND ORIEL, CERNE ABBAS.

SIR,—I see in your issue of to-day's date an interesting drawing of what the writer of the note calls "The Abbey Gate-house, Cerne Abbas." Had a proper plan accompanied the drawing it would be obvious to all that the building could not have been the abbey gateway. I enclose a sketch plan from



which it will be seen that it was a large three-storied porch to a lofty vaulted apartment, but what was the nature or use of the apartment it is impossible to say without excavation. The caps of the vaulting-shafts are at about the level of the second floor.

HAROLD BRAKSPEAR.

Illustrations.

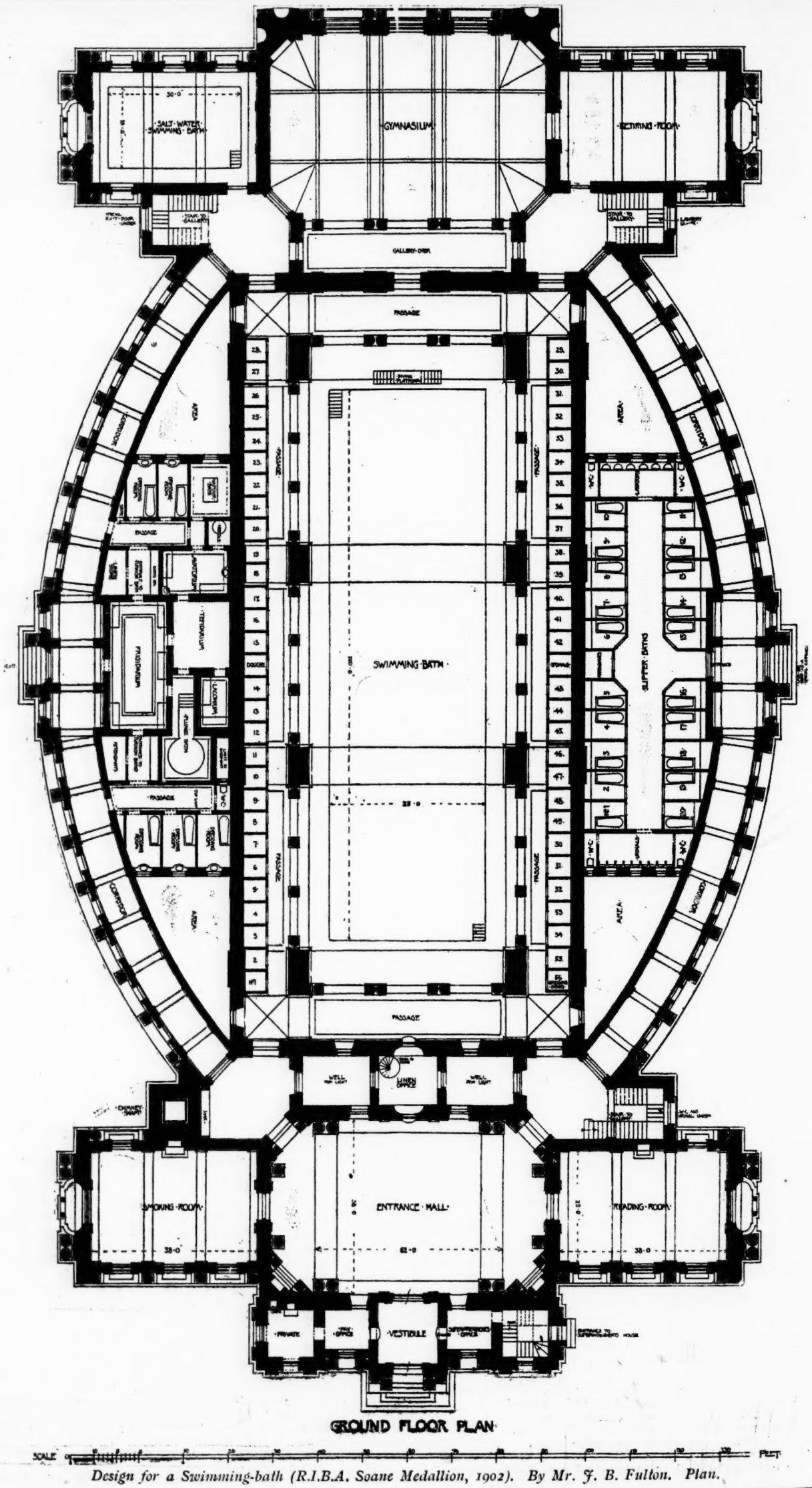
DESIGN FOR A SWIMMING-BATH (SOANE MEDALLION).

WE have devoted our plates this week to a complete illustration of the design for a swimming-bath, treated in monumental style, by Mr. J. B. Fulton, for which the Council of the Institute of Architects this year awarded the Soane Medallion. We regard this as one of the best Soane Medallion designs for a good while past, and are desirous to do every justice to it.

We have commented on the design already in our review of the Institute Prize drawings in the issue of January 18. We have only to add here the following remarks by the author of the design:—

"After a great deal of serious thought on every conceivable scheme, I at last fixed on the one here illustrated, which appeared to me to meet the requirements of the competition.

* We should think this was underestimated.—ED.



GROUND FLOOR PLAN.

Design for a Swimming-bath (R.I.B.A. Soane Medallion, 1902). By Mr. J. B. Fulton. Plan.

I have no doubt that top lighting is the more excellent method of lighting for a bath; but to treat the interior architecturally, as the conditions ask, I preferred it as shown, aiming at huge scale and dignified grandeur.

The exterior of the bath was by far the most difficult part of the design, because the large semicircular windows were so very difficult to treat externally in an architectural manner to be in style and scale with the rest of the building. I came to the conclusion that columns in front of the windows might do, giving fine perpendicular lines, and giving a certain character, aiming at originality, but not without precedent."

OBITUARY.

MR. PENTY.—Adverting to the decease of Mr. Walter Green Penty, of Lendal-chambers, York, announced in our columns last week, we may here add that he was elected a Fellow of the Royal Institute of British Architects in 1889, and was a Past-President of the York Architectural Society. Amongst the building works recently planned and designed by him we may cite the following:—The laundry buildings for the York Union; a dinner-hall for the York Board of Guardians; alterations and improvements of Elm Bank, near York, for Mr. Sidney Leetham; the Memorial Almshouses, Skelder-gate, York, opened in November, 1900; and the coal depot, with stabling, offices, &c., Clementhorpe, for the York Equitable Industrial Society, Limited.

MR. SIDNEY COOPER, R.A.—Mr. Sidney Cooper, the well-known animal painter, passed away a few days ago at his residence at Canterbury. The deceased was born at Canterbury on September 26, 1803, and at an early age he showed a love of drawing, his first known sketch being of the bell tower of Canterbury Cathedral. At the age of twelve he was engaged painting coaches for a coach-builder, which work he gave up for that of scene-painting. Through the influence of Sir T. Lawrence, he was subsequently admitted into the Royal Academy Schools. In 1827 he went to the Continent and settled at Brussels, where, becoming more prosperous, he married the daughter of an English resident. In 1831 he returned to England and settled in London. In 1833 he exhibited at the Suffolk-street Gallery, and in 1834 he first exhibited at the Royal Academy. At the Manchester Exhibition, he took the 20*l.* prize and the Heywood medal. From this time forward he became a regular contributor to the Academy, to which body he was elected an Associate in 1845 He did a number of works in collaboration with the late F. R. Lee, R.A., the landscape painter. In 1867 he was elected a Royal Academician. In 1882 he presented to the City of Canterbury the gallery of art which he had formed there, and in which for many years he had given gratuitous teaching to students, and the gallery was converted into a school and affiliated to the Science and Art Department of South Kensington. Last year he received the dignity of Commander of the Royal Victorian Order. He practically died in harness, being at work a month ago on pictures for the next R. A. Exhibition.

GENERAL BUILDING NEWS.

CONGREGATIONAL CHURCH, CARDIFF.—The new Central Congregational Church, Windsor-place, Cardiff, has just been opened. The new church has been erected at a total cost of 5,500*l.* Mr. W. Beddoe-Rees, Cardiff, was the architect.

NEW CHAPEL, CLYDACH, BRECONSHIRE.—The formal opening of Carmel Congregational Chapel, Clydach, took place on the 1st inst. The new edifice cost 3,800*l.*, the contractors being Messrs. B. Hill & W. Jones, Clydach, who worked from designs prepared by Mr. W. W. Williams, architect, Windstreet, Swansea.

CONGREGATIONAL CHURCH, WALLSEND.—On the 5th inst. the opening of the buildings forming part of the Wallsend Congregational Church, Park-road, took place. The new church buildings are of stone, and were built by Mr. Hepple, Newcastle. Mr. J. W. Taylor was architect. The building will seat about 350.

MEDICAL SCHOOL BUILDINGS, DUNDEE.—The contracts have just been let for the erection of the new medical buildings in Dundee. The new buildings will belong to the University, but they are to be erected in the College grounds. The site chosen lies to the north of the Technical Institute and at the back of the present buildings fronting Perth-road. The designs show a four-story block. The old church in Small's Wynd and part of the present anatomy buildings are to be removed, and the west gable of the new school will abut on the wynd. The length of the building is to be 128 ft., and its height from the ground to the eave 64 ft. A feature of the design is the corridors running east and west, which divide each floor into two parts. All the rooms open into the corridors, to which access is gained from the principal staircase. The ground floor is to be devoted to the physiology department, and contains on the south side of the corridor a classroom, 52 ft. by 25 ft., together with Professor's room, photograph-room, and lecture-room; while on the north side are the history-room, chemical-room, instrument-room, and laboratory. On the first floor are to be the materia medica and public health departments. There are lecture-rooms for each department, together with Professors' rooms, laboratories, chemical-room, experimental room, and the other necessary accommodation for the work of the classes. Pathology and gynecology are to be accommodated on the second floor, which will also contain the museum and all adjuncts in the shape of classroom, laboratories, &c. The third floor is to be devoted to the anatomy department, and will contain, *inter alia*, a dissecting room 50 ft. by 32 ft., an embryology laboratory, and surgery. Surmounting the whole building is an observatory in which astronomical work will be done. The total cost of the buildings is to be about 14,000*l.*, while the fitting-up will involve a further outlay of about 6,000*l.* The plans were originally drawn up by the late Mr. J. Murray Robertson, architect, Dundee, and were completed by Mr. James Findlay, his successor. The following are the names of the firms whose contracts were accepted:—Builder's work, Mr. J. B. Hay, Dundee; joiner's work, Messrs. W. & R. Brownlee, Dundee; plumber's work, Mr. D. Brown, Dundee; plasterer's work, Mr. A. Ritchie, Dundee; slater's work, Messrs. J. Laburn & Co., Dundee; glazier's work, Messrs. Lindsay & Scott, Dundee; heating apparatus and hot water supply, Messrs. H. Walker & Son, Ltd., Newcastle-on-Tyne.

FIRE STATION, WEST HAMPSTEAD.—Mr. J. D. Gilbert, Chairman of the Fire Brigade Committee of the London County Council, recently opened a new fire-station which has been erected in West End-lane, facing the old village green of West End, West Hampstead. The building is what is known as a "full" station, and has been erected at a total cost, including the site, of 14,000*l.* The plans were prepared by Mr. W. E. Riley, superintending architect of the Council, and among the new features is an arrangement whereby four of the sets of quarters for the men and their families take the form of separate cottages erected at the rear of the station. Accommodation is provided for a steam fire-engine (a double-cylinder engine by Merryweather), a horsed fire-escape, a hose cart, stabling for four horses, &c. The station is lighted by electricity.

INFIRMARY AND TRAMP WARDS, SOLIHULL, WARWICKSHIRE.—The opening of the new infirmary and tramp wards, part of the scheme proposed a few years ago for the reconstruction of the Solihull Workhouse, took place on the 4th inst. The work has been carried out by Messrs. W. & T. Thompson, builders, Solihull, from the designs of Mr. W. H. Ward, architect, Birmingham. The infirmary block provides accommodation for a total of eighty patients. The ground floor consists of two large wards, adjoining which are two separation wards with two beds each. At either end of the main block small special wards are provided, for use in special cases requiring isolation. These wards have independent sanitary accommodation. On the first floor are two large wards, and separate wards, similarly fitted up to those on the ground floor. The administration block is in the central part of the building. Connected with the infirmary building is the pavilion for the use of convalescents, and the maternity ward. Provision is made on the separate cell system for eight male vagrants, and there is immediate communication with the sleeping cells. There are also associated wards for thirty-two males, these being sub-divided and classified. On the first floor there is separate cell accommodation for the female vagrants. The tramp-master and mistress have commodious quarters, with clothes-drying and receiving rooms, and other accommodation. The work is executed in red brick, with stone bands and dressings, and brick strings, &c., the roofs being covered with tiles. The ward floors are laid with polished oak blocks; the corridors, lobbies, lavatories and bathrooms are laid with encaustic tiling. The wards are heated by means of down-draught double-fire stoves, and a steam boiler supplies all the steam for radiators in the corridors, linen rooms, &c, as well as for hot and cold water supplies. The cost per bed is about 80*l.* or 90*l.*

DARLINGTON POST OFFICE ENLARGEMENT.—A beginning has been made with the enlargement of the Darlington Post Office. The new building will be three stories high and have a frontage to Crown-street of about 100 ft. The basement is to be built of stone, and the two upper stories of brick, with stone facings. The basement will be occupied by a battery-room, engineers' stores, and boys' kitchen; and the ground-floor will contain a postmen's office, postmen's kitchen, and a number of other rooms. The first floor will have rooms for the sectional engineers, male and female clerks, and also accommodation for storage purposes. It is intended to make certain alterations in the existing premises, so as to increase the size of the sorting-rooms. The contract has been let to Mr. Shepherd, of York.

NEW BUILDINGS IN ABERDEEN.—Plans have been approved of by the Plans Committee of Aberdeen Town Council for the following buildings:—Dwelling-house on the west side of Anderson-drive, for Mr. Charles A. Bodie, per Messrs. Cameron & Watt, architects; four dwelling-houses on the west side of Bright-street, for Messrs. P. Bisset & Son, builders, per Messrs. Sutherland & Pirie, architects; dwelling-house on the south side of Braemar-place, for Captain Lauder, Walker-road, per Messrs. Sutherland & Pirie, architects; dwelling-house at South Esplanade (West), for Mr. John Black, engineer, per Messrs. Walker & Duncan, architects; two dwelling-houses on the east side of Albury-place, for Messrs. R. & J. Reid, carpenters, per Messrs. Brown & Watt, architects; stable and coach-house at the rear of No. 610, King-street, for Mr. George Boyne, per Mr. William Smith, architect; alterations in connexion with premises, Nos. 47-49, Union-street, for Mr. H. Simpson Gee, per Messrs. W. & J. Smith & Kelly, architects; alterations and additions in connexion with premises on the west side of Raik-road, for Messrs. Allan & Dey, per Messrs. Brown & Watt, architects; and herring-gutting and barrel-making premises at Sinclair-road, for Messrs. A. & A. Livingstone, per Mr. Duncan Hodge, architect.

MARKET HOUSE, MINEHEAD.—On the 4th inst. Mr. G. Hayward, J.P., Chairman of the Urban District Council of Minehead, laid the foundation stone of a new market house. The building is being erected from plans prepared by Mr. W. J Tamlyn, architect, of the town.

MONTROSE ASYLUM ACCOMMODATION.—At the meeting on the 14th inst. of Montrose Asylum and Infirmary Managers, plans drawn by Mr. John Sim, C.E., Montrose, of a villa proposed to be erected at the Asylum to accommodate sixty female patients were submitted. Mr. W. Douglas Johnston moved that the Managers approve of the plans and instruct the architect to prepare specifications and get in estimates, and also gave notice that at next meeting he would move that an expenditure of 6,500*l.* to meet the cost of the building be authorised. The motion was agreed to.

BUSINESS PREMISES, MILLWALL.—On the 29th ult. the new premises at Glengall-road, Millwall, in connexion with the works of Stuart's Granolithic Stone Co., Ltd, were inspected by a number of ladies and gentlemen. The buildings have been erected by Mr. P. Stuart from specifications and plans of Messrs. Clarkson, of Poplar.

NEW SCHOOLS, BIRKENHEAD.—At the last meeting of the Birkenhead School Board, the plans of Mr. Thomas W. Cubbon, of Birkenhead, were adopted for a block of educational buildings, including a pupil teachers' college and two higher elementary schools for 300 boys and 300 girls respectively. The pupil teachers' college has accommodation for about 150 students, and consists of the usual science and other classrooms, also large examination hall, library, dining-room, &c. The higher elementary schools are planned on the regulations of the new Minute of the Board of Education, and each includes, in addition to ordinary classrooms, central hall, chemical and physical laboratory, drawing classroom, and gymnasium. The boys' school also includes manual room, and the girls' school cookery and laundry accommodation. The site adjoins the General Post Office, and has cost 6,000*l.* The whole block of buildings is expected to cost about 30,000*l.*

THE BUILDING TRADE IN EASTBOURNE.—The following plans have been considered by the Building Committee, and the Committee recommend the Council to approve the same:—Surgeon-General Beatson (A. A. Oakden, architect, R. H. Stanbridge, builder), addition to Vicarsgrange, Grange-road.—Mrs. Sogno (A. Chandler, architect, Wm. Llewellyn, builder), addition to 30, Lushington-road. — J. McCann (J. W. Woolnough, architect, J. McCann, builder), pair houses, Arlington-road.—D. Allum (A. Chandler, architect), covered way, 19, Gorringe-road (no drain being under the building).—J. Barrow (A. Chandler, architect, J. Barrow, builder), seven houses, Birling-street. — Haybittle (A. Chandler, architect, W. Llewellyn, builder), alteration to shop front, 1, Elms-buildings.—M. Martin, builder, addition to 36, Enys-road.—B. Stevens (A. A. Oakden, architect, B. Stevens, builder), amended plan, six similar pairs of houses, Meads-road.—J. C. Lacey (J. C. Lacey, builder), detached house, Latimer-road, —G. E. Maynard (B. Earp, architect, J. Martin, builder), addition to furniture warehouse, rear of Whitley-road.—H. B. Hooper (J. W. Woolnough, architect, W. L. Wallis & Co., builders), pavilion, Compton-place-road—A. Huggett (J. W. Woolnough, architect, A. Huggett, builder), five houses, Green-street.—F. P. de Costobadie (A. A. Oakden, architect, E. Cornwell & Son, builders), alteration to premises, South-street.—Mrs. Newman (F. G. Cooke, architect, C. Breach, builder), addition to St. Andrew's Cottage, Meads-street.—Miller & Selmes (C. Crisford, architect, Miller & Selmes, builders), five cottages, Melbourne-road.—J. McCann (J. W. Woolnough, architect, J. McCann, builder), detached house, Arlington-road.

PROPOSED NEW BUILDINGS, &C., IN DUNDEE.—Plans and sections of proposed new buildings, &c, in Dundee, have been lodged with Mr. William Mackison, Burgh Engineer, to be submitted to a meeting of the Works Committee of the Town Council, as follows:—131, Ann-street: Additions to property for Mrs. Benvie.—Blackness-road: Dwelling houses for David Grant. —Blinshall-street: Restoration of warehouse for J. & J. Ogilvie.—Blinshall-street: Store for Samuel Worrall.—Hilltown and George street: Alterations on and additions to property for John U. M'Lachlan.—Lochee-road: Shops and dwelling-houses for William Anderson.—236, Lochee-road: Additions to pro

perty for Mrs. M'Lean.—Ogilvie's-road: Alterations on and additions to property for Stewart Bros.—North William-street: Warehouse for J. Scott & Sons.—High-street, Lochee: Alterations on property for the North of Scotland Bank, Ltd.—Rosebery-street: Alterations on and additions to property for Gaban Bros.

LIBRARY, KILBURN.—On the 7th inst. the new Kilburn Branch Library, erected by the Hampstead Borough Council on a site between Cotleigh and Dynham-roads, West-end-lane, was opened to the public. The entrance to the new building is in Cotleigh-road. The cost of the site was 1,200*l.*; of the building, 2,400*l.*; of the fittings, 250*l.*; and of the installation of the electric light, 77*l.* The plans for the building were prepared by Mr. C. H. Lowe, C.E., the former Borough Surveyor, with the assistance of Mr. J. W. Lee, and have been carried out under the supervision of the present Engineer and Surveyor, Mr. O. E. Winter. Mr. J. Christie was the builder, and the electric light has been installed by Messrs. Roff & Son. The exterior of the building is of red brick, and the interior is of red and white bricks, with open timbered roof, windows filled with cathedral glass, and block flooring.

NEW COMBINATION POORHOUSE, CAMBUSNETHAN.—Mr. Alex Cullen, Motherwell and Hamilton, has been selected to prepare plans of the new Combination Poorhouse to be erected at Cleland by the parishes of Cambusnethan, Bothwell, and Shotts. The cost of the new building will be about 20,000*l.*

INFECTIOUS DISEASES HOSPITAL, TROON, AYR.—It has been decided to erect a small infectious diseases hospital at Troon, to cost about 1,000*l.* Mr. Eaglesham, architect, Ayr, is to prepare plans.

FREE LIBRARY, WOLVERHAMPTON.—The new Free Library at Wolverhampton, built upon the site of the old Theatre Royal, Garrick-street, has just been opened. The architect was Mr. H. T. Hare.

SANITARY AND ENGINEERING NEWS.

BRIDGE, GUILDFORD.—The new bridge across the Wey at Guildford was opened on the 5th inst. The bridge, which has been constructed of iron girders of a span of 70 ft., takes the place of the old brick and stone structure which collapsed in the flood at Guildford nearly two years ago. It has been built from designs of Mr. J. Webster, M.Inst.C.E., by Messrs. Fasey & Son, of Leytonstone, the contract price being 5,596*l.*

SEWAGE DISPOSAL, BUXTON.—On the 4th inst. Mr. E. A. Sandford Fawcett, A.M Inst.C.E., held an inquiry at Buxton in reference to the application of the District Council to borrow 12,000*l.* for purposes of sewage disposal, including the construction of works in the urban district of Fairfield and the parish of King Sterndale. Mr. Grieves, surveyor, explained the scheme. He said the effluent had frequently been passed into the river containing a less percentage of albuminoid ammonia than was allowed by the County Council. They were anxious to turn the best effluent into the river, and would spare no expense to secure that object. There were no domestic water supplies below the tanks. Other evidence having been given, the inquiry closed.

WIDNES AND RUNCORN BRIDGE.—On the 6th inst. the first report of the Widnes and Runcorn Transporter Bridge Co. was made to the shareholders. The foundation work has been let to Messrs. W. Thornton & Sons, of Liverpool, and the superstructure to Arrol's Bridge and Roof Co., Ltd. Mr. H. L. Chase has been appointed resident engineer. It is expected the bridge will be completed about the middle of next year.

WATER SUPPLY, BARDNEY.—The Local Government Board refuse to allow the well sunk by the parish to be used for a public supply. The Welton Rural District Council have consequently resolved to submit the scheme as first recommended by their engineer, Mr. J. R. Elliott, of Nottingham, for approval. A loan for 3,000*l.* is to be applied for.

LEIGHTON BUZZARD SEWAGE DISPOSAL.—The Leighton Buzzard Urban District Council have received the sanction of the Local Government Board for a loan to enable them to convert their present sewage works (designed some years ago by Mr. Bertram Nicholls, C.E.) to the oxidation polarite system with Candy-Caink automatic revolving sprinklers and intermitters, which will enable the Council to save the expense of chemical treatment and do away with the present sludge difficulty. The work of conversion will be put in hand at once by the District Council's Engineer, Mr. J. Stewart.

MANCHESTER SHIP CANAL.—The half-yearly Report of the Engineer, Mr. H. Hunter, states that the depth of water in the ship canal and docks has been maintained throughout the entire length, but no relaxation of the dredging work has been possible, as the quantities of silt and sludge deposited in the waterway have continued without sensible diminution. Special dredging operations are being carried on for the deepening of the channel in the estuary of the Mersey which forms the access to the canal at Eastham; the work includes the removal of banks of silt and a certain quantity of rock. At Barton Locks the permanent greenheart upper gates of the 65 ft. lock have been fixed in place and the spare steel gates removed. The new traffic and railway offices in Trafford-road Salford, have been completed and are in use, and the station-master's office in the same road is in course of erection. Further progress has been made with the railway extension works authorised by the Act of 1900. The construction of the bridge which is to carry the through railway over the Lancashire and Yorkshire Railway is in hand, the retaining walls and other works between that bridge and the existing docks are being proceeded with, and, as possession of the racecourse has been obtained, arrangements have been made for proceeding with the formation of the last section of the line at once. The construction of the remaining section of the main road on the boundary of the company's property is also in hand, and portions of the service roads and railways have been completed, thus making a part of the land purchased available for the storage of timber, for which purpose it is in use. The embankments and slopes of the canal generally are in good condition, and the works throughout have been efficiently maintained. The large new transit shed constructed by the Manchester Ship Canal Warehousing Co., Ltd., on the north side of No. 8 Dock, is nearly complete. The whole of the electric cranes have been erected on the roof, and are at work, and the completed portions of the shed are in constant use for traffic purposes.

MARGATE WATER BILL.—Margate is to have an entirely new water supply. A poll of the Burgesses was taken under the Borough Funds Act last week, and the result was a victory for the Corporation, who are promoting this bill in Parliament. The figures were: for 3,370, against 1,748. Last year a unanimous Council was thwarted by an adverse vote of the burgesses of 364. The plan is that of Mr. Albert Latham, the Borough Engineer, and the scheme is to construct a pumping well and something like two miles in length of adits in the chalk hills about a mile to the south of the Wingham Springs, noted for their watercresses. An experimental well has been sunk, and the report of the experts is that the water is abundant in quantity and excellent in quality, sufficient to supply the whole of the Isle of Thanet and the district adjacent for many years to come. A pumping station will be constructed on the site with powerful engines, and a cast-iron main, fourteen miles in length, will be laid to Margate, crossing the river Stour at the new road lately constructed between Stourmouth and Monckton, supplying the villages en route. Included in the plans is a scheme for supplying eighteen parishes in East Kent under the jurisdiction of the Bridge and Eastry Rural District Councils. The estimate is 120,000*l.* The bill was read a second time in the House of Lords on Monday last.

FOREIGN.

INDIA.—A reconnaissance survey has been sanctioned by the agency of the East Indian Railway Company for a line of railway from Gya station eastwards to the town of Cutwa. It will be nearly 250 miles in length.——The Allahabad-Fyzabad Railway has been commenced, and the work is under the direction of Mr. J. L. P. Hogan, engineer-in-chief, Allahabad.——The Nilgiri Railway Company has arranged with the India Office for the extension of their hill line from Coonoor to Ootacamund, and the work is about to be commenced.——The Secretary of State has sanctioned the necessary expenditure for the construction of the Nowshera-Dargai Railway.——It is believed that Mr. W. Emerson, the President of the Royal Institute of British Architects, who has recently visited Calcutta, is about to prepare preliminary designs for the Victoria Memorial Hall in that city.——An extensive scheme has been prepared for supplying Moulmein with water; the works will be executed through the Public Works Department.——The largest irrigation work at present being undertaken in Upper Burma is the Shwebo Canal, which is estimated to cost about 48 lakhs of rupees. It will irrigate about 150,000 acres of land.——A Burmese art exhibition was held in the Jubilee Hall, Rangoon, on January 10 and 11 last. The exhibition was under the patronage of the Lieutenant-Governor.——The Burgess Memorial Ward, which is being erected at Mandalay, in connexion with the hospital, is nearing completion, and a nursing-house is to be built during the present year.——Large "central canal" workshops are being erected at Amritsar.——A large dock is being constructed at the end of the slipway at the Khoolna terminus of the Bengal Central Railway.

CHINA.—A railway line recently constructed from Tsingtao to Chingliang was inaugurated on the first day of this year. The line is now being pushed on to Weihaien, an important market town in Shantung, and the first supplies of Shantung coal are expected to be sent from that town during the next few weeks.

GLASGOW ARCHITECTURAL CRAFTSMEN'S SOCIETY.—A meeting of this Society was held on Friday evening, the 7th inst., when papers on "Stone" and "Brick" were read by Mr. James S. Robertson and Mr. Robert Armour respectively. The stones from the best known quarries of Scotland, with their characteristics, were described, and the manufacture and various types of local brick were also treated of in practical ashion.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Messrs. Easton & Co. have appointed Mr. G. D. Seaton, of 36, Islington-row, Edgbaston, Birmingham, as their representative for the Midland counties.——The Electric Lighting Boards Co. request that all enquiries should be addressed to the head office at No. 7, Pall-mall, S.W., to the Company, and not to individuals.——Mr. J. B. Colwill, surveyor, 6, Alma-road, St. Albans, has taken into partnership his son, Mr. E. G. Colwill; the style of the firm will be J. B. Colwill & Son.

THE PEABODY FUND.—The thirty-seventh annual report of the Peabody Fund shows that the sum given by Mr. Peabody was, in 1862, 150,000*l.*; in 1866, 100,000*l.*; in 1868, 100,000*l.*; and received by bequest from him in 1873, 150,000*l.*; making a total of 500,000*l.*; to which has been added money received for rent and interest, 859 997*l.* 1s. 4d., making the total fund on December 31 last 1,359,997*l.* 1s. 4d. The capital expenditure on land and buildings to the end of the year was 1,338,609*l.* 14s. 3d. The whole of the repairs, which include extensive drainage alterations at Blackfriars-road and Southwark-street, amount to 15,384*l.* 12s. 8d.. and have been charged to income as formerly. At the end of the year the governors had provided for the artisan and labouring poor of London 11,439 rooms, besides bathrooms, laundries, and lavatories. These rooms comprised 5,159 separate dwellings, viz.:—100 of four rooms, 1,770 of three rooms, 2,440 of two rooms, and 849 of one room. The twelve blocks of buildings at Rosendale-road, Herne Hill, were nearly completed at the end of the year, and are now being let.

THE CHURCH CRAFTS' LEAGUE.—The League is holding its first general meeting of the year on Monday next, the 17th inst., at the Hall, Clifford's Inn, Fleet-street, E.C., when Mr. Roger Fry, M.A., will deliver a lecture (illustrated by lantern slides) on "Art Patronage of the Church in Italy during the Fifteenth Century." The Bishop of Rochester will be in the chair, and a collection of photographs of work done by the artist members will be on view at the conclusion of the lecture. Non-members of the League will be very welcome to attend, and they can obtain cards of admission from the Secretary, Mr. Francis Burgess, Church House, Westminster, S.W.

BERMONDSEY REFUSE DESTRUCTOR.—Messrs. Hughes & Stirling, the contractors who carried out the refuse destructor at Bermondsey, write that our statement that the destructor is "capable of consuming 50 tons of refuse per day" is below the mark; each of the six cells, they state, is capable of destroying 15 tons per day, making a total of 90 tons per day. We presume they are correct, though it is at variance with the information originally given to us.

TRURO CATHEDRAL.—A meeting of the Executive Committee was held on the 8th inst. to consider Sir Thomas Drew's Report on the fractures in the bases of the nave pillars in Truro Cathedral. The proceedings were private, but the following official Report has been communicated:—"There was a full attendance. Mr. F. L. Pearson, the architect, and Mr. Ward (of Messrs. Willcocks & Co., the contractors) were present. Sir Thomas Drew's Report was read. The details of this are at present confidential, and will not be published until the General Committee have received it. But permission is given to quote the following:—'My general impression is that the magnitude of the occurrence of such fractures as these should not be overrated, nor should they cause anxiety. Such unlooked-for occurrences are incidents in carrying out many building contracts, which are not heard of, and are of no outside interest, and are set right, and are to the builders a vexation, not an anxiety.' No immediate steps need be taken, but the contractor has been desired to furnish an estimate for the removal of one of the bases of the piers, in order that the knowledge of the causes of the fracture may be arrived at by actual inspection, and not rest only on theory."

DUBLIN MASTER BUILDERS' ASSOCIATION.—The annual dinner of the Master Builders' Association was held at the Antient Concert Rooms, when the President for the year, Mr. J. Beckett, occupied the chair. The chairman proposed "The King," which was duly honoured. Mr. Thomas Connolly proposed "The Health of the Lord Mayor," and the Lord Mayor responded. Mr. John Good proposed "Trade and Commerce," to which Sir Thomas Pile responded. He said that the trade and commerce of Dublin were closely associated with the Master Builders' Association. A great deal of the prosperity of the city must be attributed to the work which the building trade has so successfully done. A great deal of the progress that had taken place was due to the friendly relations between capital and labour, and he was glad to know that there were such friendly relations. An association like that of the Master Builders was sure to bring about a better feeling between employers and employed. Referring to the question of technical education, he said that the movement was progressing, and they might look forward in the future to highly cultivated labour, and not the labour that was of little use to the working classes of the city.—Mr. George Berry, J.P., Chairman of the Pembroke Urban Council, also replied, and said they wanted

in the city a little more mutual organisation—that men should interest themselves in the trade they followed, working for the common cause and for the public benefit.—Mr. Wm. Mitchell, R.H.A., proposed the toast of "The Master Builders' Association." He referred to the important functions it had to fulfil, and the excellent manner in which it performed its work, and complimented the President on the high qualities which he displayed. The President, in the course of his reply, referred to the great loss sustained by the Association in the death of the late Alderman Meade, who had exercised such a powerful influence for the success of the Association. Their body had passed through many difficulties, including differences with their workmen, but they had now got to a state of content and happiness. Their Association showed that they would not withhold any help that could be given that their working men should be happy and contented and prosperous in their work. When the most had to be given for the least money no man with a heart in his work could do the work to his satisfaction, and he was glad to glean from Mr. Mitchell's speech that the architects were recognising this fact.—The health of the Chairman and of the guests having been proposed and duly honoured, the dinner concluded.

CHATHAM MASTER BUILDER'S DINNER.—At the Sun Hotel, Chatham, the annual dinner of the Chatham and District Master Builders' Association (affiliated with the South-Eastern Counties' Master Builders' Federation) was recently held, and there was a large assemblage, presided over by the ex-Mayor of Chatham (Alderman C. E. Skinner), supported by the Vice-Presidents, Mr. Walter West and Mr. G. D. Woollard, and Mr. R. W. Hogg, Hon. Treasurer. The President gave the loyal toasts, and Mr. J. R. Featherby, Chairman of the Gillingham Urban District Council, proposed "The Imperial Forces," coupled with the name of Capt. J. W. Nash (architect). Mr. G. E. Bond (architect) submitted "The Mayors and Corporations of Chatham and Rochester, the High Constable of Gillingham, and the Gillingham District Council," which was replied to by the Mayor of Chatham; Mr. G. Robinson (Rochester); Mr. J. R. Featherby, an ex-High Constable and Chairman of the Gillingham District Council. "Success to the Chatham and District Master Builders' Association" was proposed by Mr. A. B. Hearn (solicitor), and the President replied. Messrs. W. F. Wallis and T. Costigan responded to "The Southern Counties Master Builders' Federations," which was proposed by Mr. Walter West (Vice-President); Mr. H. E. Phillips proposed "The Local Architects," and Messrs. W. T. Boucher and E. J. Hammond replied. Mr. G. Hardy gave "The Surveyors of Rochester, Chatham, Gillingham, and Strood," to which those officials—Messrs. William Banks, C. Day, C. Candler, and J. Loach—responded, Mr. H. F. Whyman replied to "The Visitors," proposed by Mr. R. W. Hogg.

HOUSING IN NEWCASTLE.—The Sanitary Sub-Committee of the Newcastle-on-Tyne Corporation, as the result of an inquiry which has included visits to numerous other towns, recommend the provision of houses of the poorer classes in the three areas of Forth Banks, City-road, and Quality-row, 100 tenements in each area, to accommodate in round numbers 400 persons. The Sub-Committee propose that the tenements should be built in blocks on the general lines of those at Dryden and Rachael-streets, Liverpool, but in detail of individual dwelling to accord with the type of those to be erected by the Newcastle Corporation at Walker New-road, with such modifications or improvements as may suit local circumstances.

BARNSLEY BUILDING TRADES FEDERATION DINNER.—The annual dinner of the Barnsley Federation of Building Trades' Employers was held at the Royal Hotel, Barnsley, recently. The President, Mr. D. R. Snowden, occupied the chair. In responding to the toast of the "Barnsley Federation," which was given by Mr. J. Townsley (Hull), the President said he had no doubt that the Association was looked upon as a very flourishing institution, but he regretted that there was an apathy on the part of the members which ought not to exist, though he was glad to know that there were a few good honest workers, who were enthusiastic in pushing forward the objects of the Association. He alluded to the correspondence which had been going on lately in the Press on the subject of "Organised Idleness." He did not say that the worst cases mentioned were the average cases, and he did not say that there were not good and honest men among their employees, but unless the master builders were properly federated, there would soon be none. Since twenty-five years ago, the price of materials and the cost of labour had not increased to any very great extent, yet to-day a person desirous of building would have to pay 1,500*l.* for what would then have cost only 1,000*l.* This excess was not going to the builders, for as a community builders were not particularly well off. Their Association was formed to discover the leakage. Public as well as private work had cost more than formerly, yet the men were not better off. He appealed to builders to join the Federation, in order to effect an improvement all round, so that the worker could get good wages for good work done, the master a fair profit, and the capitalist 1,000*l.* worth of work for his 1,000*l.* spent.—Mr. J. Smith, Vice-President, also responded.—Mr. C. D. Potter gave "The National and all Federated Branches and Kindred Associations of the Building Trade," to which Councillor Mansfield, of York, President of the Yorkshire Federation, responded, saying that if it had not been for the federation of the master builders of Yorkshire, Lancashire, Cheshire, and Northumberland, and the National, trades-unions could have done just as they liked. Mr. J. Biggin, of Sheffield, also responded. Mr. W. G. England gave "The Town and Trade of Barnsley," to which the Mayor (Dr. Horne) and Mr. J. H. Taylor (Borough Surveyor) responded. Mr. W. Dunk proposed "The Architects," and Mr. Senior and Mr. H. Crawshaw responded.

REREDOS, PARISH CHURCH, DOWNEND, GLOUCESTERSHIRE. — An oak reredos has just been placed in Downend parish church in memory of the late Mrs. Skelton. The work of designing and executing the reredos was entrusted to Mr. Frank Bell, of Bristol.

NEW STALLS, SOUTHWELL CATHEDRAL.—On the 5th inst. the new stalls were dedicated at Southwell Cathedral by the Lord Bishop of the Diocese. The stalls, which fill two bays on either side of the chancel, were designed by Mr. Caroe, architect to the Ecclesiastical Commissioners, and the work was executed by Messrs. Cornish & Gaymer, of Walsall.

LEEDS BUILDING TRADES FEDERATION.—A meeting was held at the Grand Assembly Rooms, Leeds, on the 6th inst., under the auspices of the Leeds Building Trades Federation, to discuss the "go-easy" allegations as affecting the building trades of the city. The chair was occupied by Mr. Thomas Shortland, who was supported by representatives of the men engaged in the building and allied trades. The chairman said that if it were true that workmen were better off nowadays than they were a number of years since, it was equally true that the employers were also better off. Trade unionism had improved the character of the work as well as the status of the worker. A resolution was proposed by Mr. T. Newlove protesting against the articles published in the *Times* and other newspapers to prejudice the public against the workers in the building trades by stating that trade unionists were responsible for the high cost of buildings by a system of organised idleness; asserting that such statements were not facts, and were made with the sole intention of damaging the workers in the minds of the public, and pledging the meeting to use all legitimate means to counteract the erroneous impression created by circulating amongst the public indisputable facts. Mr. John Judge, in seconding the resolution, characterised the attack as a disgraceful attempt to slander working men. Mr. W. Bruce then addressed the meeting in defence of the men. Dealing categorically with the charges against the men, he denied emphatically that men did less work when the trade union officials were watching them. On the contrary, his experience was that they did more work and better work when their officials were present. They were charged that owing to their idleness the cost of buildings had gone up 15 per cent., and owing to increased wages a further 17 per cent., making in all an increased cost during the last twenty-four years of 32 per cent.; but he asserted with absolute confidence that men did as much work in nine hours now as they did twenty-four or twenty-five years ago. Continuing, he quoted a mass of detailed costs, which, he said, showed that masons' work had gone up during the period mentioned nearly 9 per cent., chiefly owing to the increased cost of materials, the benefit of which went to the brick-maker and the quarry-owner. Carpentry and joiners' work showed an increase of about 1½ per cent., principally owing to the increased cost of timber. Plumbing work showed a decrease of 2½ per cent., but owing to the manipulation of trade discounts it was made to show an increase of 2 per cent. On the whole, instead of an advance of 32 per cent., as charged, he could only find 12 per cent., and this was almost wholly due to the increased cost of raw material.—The resolution was adopted.

MASTER BUILDERS' ASSOCIATION, WESTON-SUPER-MARE.—The annual dinner of the local Master Builders' Association was held on the 6th inst. at the Railway Hotel, Mr. C. Addicott presiding over a large company. Dr. Duncan Grey proposed "The Imperial Forces," Quartermaster M. S. Dyer, N.S.Y.C., and Captain Keen replying. "Town and Trade" was submitted by Mr. A. R. Ford, and acknowledged by Messrs. S. C. Smith, W. H. Beedle, and H. Butt. "Architects and Surveyors" was given by Mr. D. Dyer, and responded to by Messrs. H. F. Price, S. J. Wilde, P. G. Fry, and H. Nettleton. The toast of the evening, "The Master Builders' Association," was entrusted to Mr. E. E. Baker, and acknowledged by the President (Mr. C. Addicott) and the Vice-President (Mr. W. M. Dubin). Other toasts followed.

BRISTOL MASTER BUILDERS' DINNER.—On the 6th inst. the annual dinner of the Bristol Master Builders' Association was held at the Royal Hotel, College Green, Bristol, the company numbering about eighty. The President (Mr. E. Walters) occupied the chair, and the Vice-president (Mr. George Wilkins) was in the vice-chair. The Chairman having proposed the loyal toasts, Mr. F. N. Cowlin submitted "The Lord Mayor and the Corporation of the City of Bristol," and spoke of the progressive policy which the Corporation were pursuing. The ex-Lord Mayor (Alderman J. Colthurst Godwin) and Mr. G. H. Perrin responded. Mr. W. H. Brown proposed "The Trade and Commerce of Bristol," and enlarged upon Bristol's hopeful future. As the trade increased the builder's prospects would improve.—Mr. Arthur Lee, in reply, said that although, generally speaking, the trade and commerce of Bristol during the last few years had been in a prosperous condition, the trade which that company more particularly represented had been for the past few months rather slack. That slackness was not by any means local, as he, unfortunately, had good reason to know. It was general, and it had arisen from the fact that materials and labour had gone up so rapidly that the value of houses and property had not yet accommodated itself to the economic position. He believed the local outlook was very promising, notwithstanding the recent slackness of trade. It might not be generally known that the Great Western Railway Company were going to put up huge creosoting works near the new dock, which would mean an enormous amount of timber being imported to Avonmouth. There was also the cold storage enterprise, which had now assumed practical shape.—Mr. A. Dowling proposed "The Architects and Engineers." Mr. Dare Bryan, who first responded, said that the architects of the city tried to hold the balance evenly between the building owner and the contractor.—Mr. Henry Williams followed, and agreed that Bristol was progressing rapidly. As to the conditions of labour, he was afraid they were teaching too many men to be foremen and scientific, and scientific often meant laziness. He urged builders to be more industrious themselves and to see that their men were industrious.—Mr. Averay Jones proposed "The National and South-Western Federations and Local Kindred Associations." He remarked that the organisation had been in existence a number of years, and before it was established there was no central body to which questions affecting the building trade could be referred.—Mr. A. Krauss acknowledged the toast, and spoke of the useful work which the National Association was accomplishing.—Mr. W. Church, a member of the Council of the National Federation, also replied and emphasised the importance of the organisation to the trade. He believed that before long the vexed question of contract would be settled in a way that would secure a universal form of contract.—The Town Clerk (Mr. E. J. Taylor) proposed "The Bristol Master Builders' Association," and said that the master builders were not only masters of themselves but of everybody for whom they carried out contracts. The President replied, and said he had endeavoured to serve the Association to the best of his ability. The Association was not aggressive. It was for the protection of the members against the combination of the workmen, and he was afraid that but for their Association and kindred associations builders would have had a very sorry time of it. The President-Elect (Mr. George Wilkins) was formally inducted, and the toast list concluded with "The Visitors," proposed by Mr. Geo. Humphreys and responded to by Mr. P. Addie.

THE NEW BUILDING BY-LAWS, MANCHESTER.—At a recent meeting of Manchester City Council, Mr. H. Grimshaw moved as an amendment that the amended by-laws prepared by the Buildings and Improvement Committee, which the Council were now asked to approve, be referred back. He said he had not had time to digest the whole of these by-laws. He was bound, however, to say that from personal experience those he had considered, relating to the building materials to be used, wanted carefully going through by someone who would devote honest thought and consideration to them. They seemed to him to a large extent to be a collection of fossilised ideas and elementary notions. One of them in particular contained manifest absurdities as to dimensions of timber to be employed in buildings, &c.—Dr. Dreyfus seconded the amendment. He said some of the dimensions laid down in the by-laws were entirely based on arbitrary and not on scientific lines, and would cause friction between the Corporation and the persons who erected buildings, whether dwelling-houses or works.—Mr. Lambert said the suggested new by-laws, with the amendments, were submitted to the Manchester Society of Architects for their consideration, and that body made certain observations and suggestions which were acted upon. They were under the consideration of the Society from July, 1898, to January, 1899. A deputation of the Improvement and Buildings Committee also had an interview with the Local Government Board in regard to them in March, 1901. In view of these circumstances he thought the by-laws had been carefully considered, and had received honest thought and careful consideration. Certain suggestions of the Local Government Board had been agreed to, and the draft was finally approved by the Local Government Board on January 3 last. He appealed to the Council to adopt the by-laws without further delay.—Mr. Sutton supported the amendment. He thought the Improvement Committee should at least compel applicants to build houses in which people could live, and not allow the erection of such "rat-traps" as were built at the present time.—Sir J. Harwood said, in the interests of public health there should

be a minimum size fixed for a living-room. That he thought, was a matter upon which they would all be agreed, especially when they considered the case of a poor man with a large family.—The Lord Mayor said he was advised that the Local Government Board had no power to introduce anything of the kind into the by-laws.—The Town Clerk explained that the by-laws now proposed for adoption were in reality a relaxation of more severe by-laws which were already in existence.—Upon a division it was decided by thirty-three votes to twenty-five to refer the by-laws back for further consideration.

ART AND MODERN LIFE.—On Saturday evening last week, a lecture was delivered by Mr. Selwyn Image on "Some Aspects of Art and of Modern Life," at the Working Men's College, Great Ormond-street. The lecturer pointed out some of the artistic deficiencies of the present age. Individual buildings, however fine, were not enough to compensate for the fact that our ordinary architects and builders were deficient in the qualities necessary to the construction of a building artistically decent, let alone fine. He criticised the recent modernising of the houses in Bloomsbury-square, and contended that the transformation made in Russell-square had destroyed the character and proportions of house-fronts which, if plain, had had artistic quality. He also condemned the cheap showiness of most of the furniture offered for sale, and which he said was artistically a mass of rubbish. The indiscriminate application of machinery to the concerns of art was largely responsible for the evil. The consequent easiness of imitation contented us with poor shams, while endless reproductions had destroyed our taste for original handiwork. He urged his audience to help in bringing about improvement by simplifying their own homes, refusing anything which did not satisfy the conditions of good workmanship and thoroughly artistic decoration.

A RUSKIN MEMORIAL, WESTMINSTER ABBEY.—On Saturday last week Mrs. Arthur Severn unveiled in Westminster Abbey a bronze medallion of Ruskin which Mr. Onslow Ford finished not long before his own death.

MEDIÆVAL BUILDINGS UNDER YORK THEATRE.—In reference to the removal of a portion of St. Leonard's Hospital in the course of the alterations now proceeding at the York Theatre Royal, the architect, Mr. F. A. Tugwell, has made the following report:—"I wrote to the Museum authorities, offering them any portion of the old material which they decided to retain. The only portion of the undercroft which was in anything like a perfect condition was at the south-west corner of the building. The floor of this portion has been excavated down to the original level, the walls carefully pointed, and the groining made secure. This is now open to the public for the first time for many years. At the north of the back wall of the stage is a wall with two arrow heads, which may or may not originally have formed a portion of the Minster Close. The wall has not been interfered with. Underneath the stage we discovered a rather deep well, which bears signs of having been used for ages. This has been carefully cleaned out and covered over with a flag. In the caretaker's cottage there is a vaulted chamber, about thirteenth century, a portion of which has been used for coals, but which will now be used as a heating chamber. This, with a number of thirteenth century windows in the building, will not be interfered with in any way."

THE THEATRE ROYAL, BIRMINGHAM.—The old theatre in New-street was finally closed on the night of Saturday, January 4, and the ground will be cleared forthwith for the new building. The first theatre on that site was erected in 1774, at a cost of 5,660*l*. The interior having been consumed by fire—the act of an incendiary—in August, 1792, the house was reconstructed, and reopened by Macready the elder. A fire destroyed all of the structure—the Ionic portico, added in 1780, excepted—in January, 1820. A new house, for an audience of 2,900 persons, was rapidly rebuilt, at a cost of 14,000*l*., and reopened on August 14 of that same year. In June, 1810, W. C. Macready made his first appearance on the stage at the Theatre Royal, in the character of Romeo.

CAPITAL AND LABOUR.

BLACKPOOL JOINERS' STRIKE ENDED.—After lasting fourteen months, the Blackpool joiners' strike has come to an end, a settlement being arrived at at a conference on Thursday last week. The men are to receive 8½*d*. per hour and time and a quarter for the first four hours' overtime.

PLASTERERS' WAGES, GLASGOW.—A strike of plasterers, involving over 400 men, began at Glasgow on the 10th inst. in consequence of the employers having declined to restore wages to the figure at which they stood previous to December. The wages at the reduced rate are 9*d*. per hour.

BUILDING DISPUTE, MAIDSTONE.—In response to the invitation to arbitrate between the masters and men in the building trade dispute at Maidstone, the Board of Trade has written to Mr. M. L. Crow, secretary to the Master Builders' Association, and to Mr. W. H. Oram, secretary to the Allied Trades, intimating that it has appointed Mr. G. R. Askwith, barrister-at-law, of 2, Pump-court, London, E.C., to act as arbitrator. The secretaries are now in communication with him as to the date and place of the meeting. It is expected that the arbitration will be held in Maidstone. It was arranged that the men should return to work, the lock-out having lasted for about five weeks.

LEGAL.

IMPORTANT ANCIENT LIGHT DISPUTE IN HOLBORN.

MANDATORY INJUNCTION GRANTED.

THE case of Parker *v.* W. F. Stanley & Co., Ltd., came before Mr. Justice Farwell in the Chancery Division on the 6th, 7th, and 8th insts. It was an action brought by Messrs. Parker, photographers and photographic artists, carrying on business at No. 288, High Holborn, to restrain the defendant company, mathematical instrument makers, from obstructing their ancient lights, the claim being for a mandatory injunction or, in the alternative, for damages.

Mr. C. F. Jenkins, K.C., and Mr. Colt appeared as counsel for the plaintiffs; and Mr. Bramwell Davis, K.C., and Mr. P. Wheeler for the defendants.

Mr. Jenkins, in opening the plaintiffs' case, said the premises, No. 288, High Holborn, were situated near the side wall of Lincoln's Inn-gardens. The plaintiffs had, in fact, been in occupation of this house for the purposes of their business since the year 1890, but their present title depended upon a lease granted to them and dated April 8, 1897. By that indenture a Mr. Hasluck granted the plaintiffs a lease of the premises for a term of fourteen years from March 25, 1897, so that the term expired on Lady Day, 1911. It was an ordinary repairing lease, the rent reserved being 180*l*. a year. No. 288, High Holborn was a very narrow building indeed. It was on the south side of Holborn, and therefore the front of the house faced due north. In the present case they were not concerned with the front of the house looking upon Holborn, but with a back extension of it of one story only, and which ran due north and south. That back extension was lighted only by windows in its roof. One series of lights looked east, and these had nothing to do with the action except that it was material to know that these eastern lights were very much blocked by larger buildings, and therefore the light to the windows on the western slope of the roof was the more material. This building was used by the plaintiffs for the purposes of their business in three different ways. A portion was what was called the gallery, and was used for exhibiting the plaintiffs' works of art, photographs, &c. Another portion was used as a studio for taking photographs and also for touching-up negatives by their artists, work which required a good light. The evidence was that, since the obstruction, that work had had to be given up, and also that in the taking of photographs great inconvenience had resulted from the diminished light. The last portion of this building was used by the plaintiffs substantially as their darkroom for preparing the photographs. The window to this room when it was required to be used as a darkroom was darkened by means of a shutter outside. There was a suggestion made by the defence that because this room had been used as a darkroom by the plaintiffs they had abandoned their light to it. Two answers would be made to that. If it was going to be treated by the defendants as a case of abandonment, which was the way it was pleaded, the answer was that abandonment must be a question of intention, and there was no abandonment. If the defendants put it against the plaintiffs that, although there was not sufficient evidence of abandonment, nevertheless there was sufficient evidence of non-user to prevent the plaintiffs claiming a title under the Prescription Act, the answer would be that it was immaterial because the plaintiffs could make a title to that ancient window by prescription at common law, and they could show that that was an ancient window long before the time when the plaintiffs began to use it for their purposes.

His lordship: A dark room is not permanently darkened, but only darkened for the purposes of business.

Mr. Jenkins: Certainly. If you dropped something and wanted to look for it you would put the shutter back.

Continuing, the learned counsel said that the plaintiffs' premises were very old, and the history of them, so far as it was material, began as far back as 1860. The tenancies had been fairly long ones. In 1860 these premises were in the occupation of a Mr. Wallis, who was a tailor and woollen and cloth merchant in a large way of business, and used them as a shop and warehouse and lived over them. The long building at the back was used by him as a fitting and cutting room, and also for keeping the cloths and woollen goods he had to show. The evidence was that he required a good light to these premises, and it always had been through the skylights. Mr. Wallis carried on business there up to about the year 1880. In that year the premises were taken by a Mr. Waller, who used them as a restaurant and eating-house. It seemed to have been a restaurant and eating-house run on a cheap scale, and the evidence was that sometimes they served as many as 1,000 meals a day. Waller used what the plaintiffs used as the gallery as the dining or luncheon room. The part the plaintiffs used as a studio was where Waller sat himself and checked the payment of the bills. The part still further back was used by Waller for cooking, and there was there still the old cooking-range. The plaintiffs succeeded to the property in 1890. The studio was practically now all glass. That was with the obect of getting the very best light. When they went in in 1890 it was not all glass. It had only two skylights, and the result was that the plaintiffs had much improved their light, but they had preserved in their new glass area the old glass area. For many years before the defendants erected their building, which was complained of, the land upon which it stood was vacant, and had been since 1884 or 1885. Previously to that time there had stood upon the land an old house. The evidence as to the size and dimensions of that old house would be very clear because the plaintiffs were able to call before his lordship the architect or surveyor who was actually employed in making a measurement and survey of the old house at the time when it was pulled down. Fortunately, they had his plans, and could give the dimensions of the old building with accuracy. The old building in one respect did not reach so far back as the present building, or so near the wall of Lincoln's Inn Gardens, by some 4 ft. That was material with regard to the window in the dark room because the greater part of this window had, for many years before the defendants' building was erected, a directly open light. That was interfered with by the defendants' building being carried some 4 ft. more towards the south than the old building. The old building was one with a ground floor, first floor, second floor, and attic. Of course, the plaintiffs themselves could not speak of what was the effect of the old building, because it was not there when they came into occupation of No. 288, but witnesses would be called who would speak of what the light was when the old building was there.

His Lordship observed that the old building seemed to have gone more to the north than the defendants' new building.

Mr. Jenkins said that was so, and plaintiffs had given credit for that as far as was necessary. The old building was irregular in its outline and not a square or oblong building like the defendants, and the fact that there was a large gap between the attic and the chimney-stack on the right was very important when one considered the question of direct western lights coming to the plaintiffs' windows. The writ in the action was issued on May 10, 1901, and served on May 11, 1901, and the plaintiffs applied soon after for an interim injunction before Mr. Justice Cozens-Hardy. There was some dispute on the evidence on the motion as the plaintiffs' evidence as to the old house was not then so clear as now. The defendants then refused to give an undertaking and the learned judge said that under the circumstances he would not interfere because if the defendants went on building they would do so at their risk as they could be ordered to pull down at the trial. The defendants by their defence had put in a plea that their building was substantially finished at the date of the writ and relied on the plaintiffs' laches. The learned counsel said that this was untrue, and that the defendants' building at the date of the writ was only a little above the line where obstruction commenced. The defendants did not desire to make money out of the case, and he asked his lordship to grant a mandatory order and not to treat the case as one for damages.

Mr. Chas. H. Webb, an architect and surveyor practising at Bedford-row, W.C., examined by Mr. Jenkins, said he had been acting for the plaintiffs in this matter. His attention was first called to the fact that building operations were going to be commenced by the defendants on the land to the west of the plaintiffs' house in February, 1901. He discovered from a section of plans shown to him by Messrs. Hayward & Maynard, the defendants' surveyors, that the defendants' building was probably going to a height of about 48 ft. 6 in. The wall of the defendants' building was 14 ft. 8 in. distant from the wall of the plaintiffs' building. On May 14 the defendants' building was 32 ft. 8 in. high. He had measured the building since it had been completed, and found that it was 46 ft. 6 in. high from the ground. It measured across from north to south 29 ft. 9 in. He saw the defendants' building from time to time after May 14, while it was being put up. The work was being hurried on. He had met Mr. Cox, a surveyor, who had produced to him certain plans of the old house which formerly stood on the site of the defendants' present building. He found that the old house extended to within about 9 ft. from the garden wall of Lincoln's Inn. The defendants' building went within about 4 ft. 6 in. of the garden wall. The defendants' building obstructed the plaintiffs' light. He and Mr. Frampton, a surveyor, had checked certain measurements. The defendants' building below 26 ft. 6 in. from the ground did not cause any obstruction to the plaintiffs' lights. The defendants' building obscured the plaintiffs' sky area to the extent of 625 superficial feet. The sky area obscured by the old building was 346 superficial feet. The difference was 279 superficial feet. As the defendants had

given 35 superficial feet more to the north the practical difference of sky area was 244 superficial feet. The new building obstructed the whole of the direct light coming to the skylight in the dark room. This light was 2 ft. 6 in. long—about 1 ft. of the window might have been obstructed by the old building. With regard to the studio window the witness said that there was increased obstruction there. There was also considerable obstruction as to two of the gallery windows during part of the day. As an expert he should estimate the damage done to the plaintiffs' premises by the obstruction at 50*l.* a year or at 8¼ year's purchase 412*l.* 10*s.*

Cross-examined by Mr. Bramwell Davis.

He had known the plaintiffs' premises for years. Since the year 1890 the windows of the studio had been enlarged—at least, he had been told so. The dark room window was an old one, and apparently no alteration had been made there. He had not been in the plaintiffs' premises before the old building was pulled down in 1885. On May 14, 1901, the defendants' building was 32 ft. 8 in. high. The height of the old house was 31 ft. 11 in. up to the parapet. He did not form any opinion whether there was obstruction on May 14. The building was being hurried on.

Mr. Alfred Frampton, A.R.I.B.A., Mr. H. C. Hawley, an auctioneer and surveyor, of Southampton-row, Mr. Cox, a surveyor, of Great James-street, Bedford-row, Mr. W. G. Parker, one of the plaintiffs, and other witnesses, also gave evidence in support of the plaintiffs' case.

At the conclusion of the plaintiffs' case, Mr. Bramwell Davis said that he would proceed to call his evidence before addressing his lordship on behalf of the defendants.

Mr. Chas. Forster Hayward, F.R.I.B.A., examined by Mr. Bramwell Davis, said he was an architect and surveyor, of Museum-street, W.C, and also District Surveyor for Bloomsbury, St. Martins-in-the-Fields, and Covent Garden. He remembered the old building, No. 3, Garden-place, before it was pulled down. He had to examine it as District Surveyor. It was a dangerous structure at the time he examined it, and a portion of it was ordered to be pulled down. Before it was pulled down he took dimensions of it, and produced the plans made at the time. On the east side of Garden-place the height of the old building, from the ground floor level to the parapet, was 33 ft. 3 in., and from the ground floor level to the top of the slope of the roof 39 ft. 9 in. The total length of the building from Lincoln's Inn gardens to the north-east corner was 38 ft. He had considered the question of whether the defendants' building, as compared with the old building, interfered with the light of the plaintiffs' studio. He did not consider there could be any serious interference with the light there, inasmuch as it was a skylight and not a window, and the light that had been spoken of as being so valuable, viz., that coming between the chimney stacks of the old building, could never have been sunlight.

Cross-examined by Mr. Jenkins.

He had known for many years of the existence of the plaintiffs' low building with the lights there. He considered that the old building was a great obstruction to the plaintiffs' lights. It simply obscured the western light. When the sun came towards the west, the only light which could be got by the plaintiffs was between the two chimney stacks of the old building, but no sunlight could be got by the plaintiffs between the two chimney stacks, as the sun was too low to have produced any appreciable effect on the plaintiffs' skylights.

Mr. King, an architect and surveyor, of Billiter-square, also gave evidence to the effect that the defendants' building created no substantial interference with the plaintiffs' lights.

Other evidence having been given, Mr. Bramwell Davis submitted that no case had been made out for a mandatory injunction, as the defendants' building created no substantial interference with the plaintiffs' lights.

Mr. Wheeler followed on the same side, contending that the plaintiffs had failed to bring themselves within the decision of the Court of Appeal in the case of "Warren and Others *v.* Brown."

At the conclusion of the learned counsel's argument his lordship, addressing Mr. Colt, asked if his clients, the plaintiffs, desired to press for a mandatory order. Would they not be content to take damages instead?

Mr. Colt replied that he was instructed to press for an injunction.

His lordship: There is considerable difficulty in working out an order, because, if the defendants are entitled to replace the old building, it will be of considerable difficulty to both. I think you ought to come to some arrangement.

Mr. Colt said he must press for a mandatory order.

His lordship then proceeded to deliver judgment. He said the defendants' counsel had very properly saved time by admitting that the plaintiffs' lights were ancient lights when they went into possession in 1890. That was subject to what he should explain afterwards. Since 1890 the plaintiffs had carried on the business of photographers in the premises, and the windows he had to deal with were the skylight in the studio and the skylight in the dark room. He would first of all deal with the skylight in the dark room. It followed from his finding of fact that the lights were ancient in 1890, the plaintiffs, in order to lose the right to this light, must have been shown to have released their right by acts or deeds which would indicate an intention to release it. He could not hold that the use by a photographer of a dark room was any evidence of his intention to extinguish his right to light coming into the window of that dark room. Whether he could have granted a mandatory order against the defendants in respect to the obstruction of the dark room light was another thing, but he did think there had been substantial diminution of the light coming to the dark room by what the defendants had done. The main contest, however, was as to the studio light. The plaintiffs some years ago altered the light in the roof slightly by removing it a few inches—about 9 in. to the east—away from the defendants' building, and glass had been put in over the whole of the roof instead of as before only in the particular portion represented by the old skylight. There was no doubt that that new glass roof covered in it the place occupied by the old windows. There had been a slight alteration, but very slight indeed, and which for the purposes of the present action, in his lordship's judgment, was immaterial. There could be no doubt that there was a cone of light coming over the property which formerly stood on the site where the defendants' building now stands to the plaintiffs' old window. It had been pressed upon him by the defendants' counsel that the plaintiffs had got no record of the exact size of the old window or the exact locality. He thought, however, that as the room was so small, and as the approximate size of the window, which he had got, had been sufficiently proved, all practical difficulty disappeared. He accepted the secondary evidence given by the plaintiffs on this point. His lordship then explained the difference between the defendants' new building and the old building which formerly stood on the site, and said that in his opinion the defendants' new building had materially diminished the access of light coming to the plaintiffs' old studio window. The evidence was all one way as to the requirement of a special light for photographic purposes. The evidence of the experts in photography called for the plaintiffs was conclusive in his lordship's mind, that as the old building formerly stood it obstructed some of the light to the plaimtiffs' studio, but that the defendants' new building materially increased the obstruction. In his judgment the plaintiffs were entitled to complain because they had been injured in their photographic business. He thought he should have found that for ordinary purposes there had been no such substantial diminution of light by the obstruction as to have justified him in granting a mandatory order, but he was clear that by what the defendants had done there had been substantial diminution of the light for photographic purposes.

He thought from the evidence that the plaintiffs' business had been seriously interfered with by the interference with their lights. Undoubtedly substantial damage had resulted to them from what the defendants had done. In these circumstances, he was constrained to grant a mandatory injunction to restrain the defendants from interfering with the plaintiffs' ancient lights as they were enjoyed when the old building was standing. The mandatory order would only apply to the excess in height of defendants' building, and did not extend to the 4 ft. by which the defendants' building had been carried more towards the south than the old building.

The plaintiffs were awarded the costs of the action.

His lordship granted a stay of execution on terms with the view to the defendants appealing from his decision.

CRUSHED BY A LIFT.

MR. JOHN TROUTBECK held an inquiry at the Westminster Court with reference to the death of Harry Black, aged fifteen years, of 11, Nottingham-street, Marylebone, who was fatally injured on an electric lift at 79, Davies-street, Berkeley-square, where he had been employed as page-boy for three weeks.

Sarah Evans said 79, Davies-street belonged to the Westminster Electric Lighting Corporation, and was let out as bachelors' chambers. She heard the lift go down with a crash and the deceased screaming.

James Paltridge, manager of the chambers, said he engaged the boy and thoroughly instructed him in the working of the lift. It was his duty to keep his hand on the lever governing the electric current, but at the moment of the accident he must have been at the front of the cage, as his foot was caught between the floor and the shafting. His body was jammed in a space of 3 in. There was no gate or barrier to the lift itself, but there was a lattice door on each floor. The cage was a small one, and it would not be possible to have a door to it.

Dr. George de Castro said he was on the spot within three minutes of the accident. The boy's body formed a wedge, rendering the lift immovable, and workmen had to manipulate the cage from below. The lift was easily worked, and witness had never seen any element of danger in it. He did not consider a second door advisable, as passengers would be apt to hold the trellis-work, and so get their fingers damaged.

Mr. Charles S. Peach, architect, said he thought there could be no doubt that the boy's foot caught in the collapsible gate when he started the lift. He believed when there was a gate to a lift it was not closed ninety-nine times out of a hundred.

The jury returned a verdict of accidental death.

A BUILDING DISPUTE, DALSTON.

THE owner of No. 24, Pownall-road, Dalston, appeared to an adjourned summons at the North London Police-court on the 7th inst., which alleged that he had disobeyed an order of the L.C.C. Surveyor (Mr. James Lovegrove), to make good a defective chimney shaft.

Mr. Helman-Pidsley appeared for the County Council, and said that Mr. Bros had adjourned the case to enable the defendant to call evidence to prove his contention that the shaft was not in a dangerous condition. The defendant handed up a letter he had received from a firm of "steeple jacks," in which they certified that a year ago they had thoroughly overhauled the chimney-shaft and painted it, and put iron bands about it. And they were satisfied that it was in a safe condition.

Mr. Mead said this was not strictly evidence, and at the moment all the evidence he had before him was that of a skilled surveyor holding a responsible position under the L.C.C.

Mr. Lovegrove said the shaft was considerably out of the perpendicular. He did not ask that the entire shaft should be taken down, and would be content if 14 ft. of it were taken down. He could not order it to be rebuilt so long as the dangerous part was removed. But (added Mr. Lovegrove) I should not like to take the responsibility of this shaft, especially in the high winds that have prevailed.

The Defendant: That is a pretty good test of the stability of the shaft, seeing that it has withstood those winds. It is a serious matter for me if I have to pull the shaft down.

Mr. Mead said he would give the defendant another opportunity of showing that the shaft was not unsafe, and suggested an experienced surveyor and builder to give evidence on the point. If he decided not to further contest the order he could pull down the 14 ft. mentioned and inform the L.C.C. of what he was doing.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

18,152.—MANUFACTURE OF GLASS; *G. Leuchs and K. Leuchs.*—The inventors employ burnt titanic acid, obtained by chemical process, in the making of opaque or clouded glass or enamels. A compound of the acid ground with finished glass or enamel is applied as a coating, burnt on to the glassware.

18,172.—DRUMS FOR OIL VESSELS, &c.: *E. Channing*—At the head of the drum is a vent-tube, of which one end opens into the vessel and the other into the bung-hole, which has a drawing-off nozzle with an air passage leading into the tube, a passage for the liquid, and a lid. The nozzle when not being used can be turned inwards.

18,183.—MEANS OF CUTTING GLASS: *S. Disselkoen.*—A rapidly-moving disc mounted upon an endless wire or band, fed with corundum powder or some similar abrading substance mixed with oil, is used for cutting sheets, &c., of glass, and the band is passed through a hole, its ends being joined, made in the glass when it is desired to cut it from the middle. The inventor claims that the method will serve for giving any form desired to the cut edges.

18,184.—HOLDERS FOR ELECTRICAL LAMP-SHADES AND REFLECTORS: *Spiral Globe (Limited) and E. A. Livet.*—A cup is fashioned with the coils of a glass rod and encloses the main part of an electrical incandescent lamp bulb, being sustained with light springs that rest against it inside and are coiled upon one plane.

18,196.—SAFETY LAMPS FOR USE BY MINERS AND OTHERS: *C. Linzin.*—For locking and unlocking purposes the edges of a ring are turned over adjacent flanges of the upper and lower parts of the lamp. The turning of another ring by a lever presses dogs inwards, through the movements of pins in slots, so as to bend the edges of the first-named ring over the flanges and thereby lock them together. When it is desired to unlock the lamp, one puts it in the apparatus in such a position that the spring fingers will grip a groove upon the lower part of the lamp, whilst the dogs, under the action of the lever, grip a groove upon the upper part, whereupon the lower part can be pulled down by causing a lever to turn the eccentric on to which the fingers are fastened, and thus opening the edges of the locking-ring.

18,207.—A FASTENING FOR WINDOW SASHES: *G. M. Asher.*—On to a standard on one sash is pivoted an S-shaped hook for engagement with a lip of the catch-piece carried upon the opposite sash when it has been moved forwards by means of a screw; the tightening-up of the screw will tend to prevent the sashes from rattling and to exclude draughts.

18,208.—MEANS OF INCREASING THE ILLUMINATING POWER OF INCANDESCENT AND OTHER GAS LAMPS: *W. Theobald and G. Theobald.*—A cup-shapened cap, held in its place with projections

from it, or with a metallic crown upon the chimney, contracts the outlet at the upper end of the chimney. The arrangement is described as being particularly useful when applied to incandescent burners when the gas supply is but partially turned on.

18,211.—A WASHER FOR GAS: *D. Chandler and S. B. Chandler.*—A vertical cylinder is fitted with a middle shaft, to be turned with gearing, and of which the brushes are wetted by water admitted through the top of the cylinder, the gas flowing upwards. The inventor contrives otherwise that the brushes, when mounted upon a horizontal shaft within a gas-tight cylinder, shall be dipped into a shallow tank holding liquid with each rotation of the shaft, the gas flowing through the washers in a horizontal direction.

18,213.—COVERS FOR MAN-HOLES: *R. Herman.*—Hanging flanges are fashioned upon the cover that will dip between concentrical flanges which rise up from the bottom plate of the casing. The forcing of water past the seals into the man-hole is obviated by making the innermost of the latter flanges higher than the encompassing flange.

18,232.—A SAFETY-VALVE FOR DOMESTIC AND KINDRED HOT-WATER SUPPLY SYSTEMS: *J. Davey.*—A spherical valve, made of india-rubber or some such substance, is guided with wings, and its stem is inserted through a stuffing-box, or when the valve is "blowing off" the repose of the ball upon a seat on the cover will effect a tight joint. A reservoir is also provided, having a pipe, with two branches, at its upper end; one branch communicates with the service-pipe, and is fitted with a relief-pipe; on the other branch is a screwed cap for filling the reservoir. A weighted safety-valve, as described, and fitted with an escape-pipe, is mounted upon the upper end of the pipe above the point of divergence of its two branches.

18,272—DOGS FOR LIFTING PURPOSES: *P. McClintick.*—A U-shapened strip is put between the jaws of the dog and a cross-bar, two ropes are passed through holes near the hinge, thence to the opposite jaws to which they are fastened, and so through openings in the cross-bar and in the strip; thus the jaws will hang in the opened position when held up by the tied ends of the ropes, but will become shut together when those ends are slackened and the jaws are held up by the ropes from their other ends.

18,277.—A PORTABLE HYDRAULIC PRESS FOR WORKMEN'S USE: *T. J. McTighe.*—In one form, as adapted for splicing electrical cables, a cap fits upon the cylinder which holds the ram that has a stem surrounded with a spring pressing against it. The upper die is pressed by the end of the stem, whilst the lower die fits into undercut grooves of arms that extend from the cylinder and can be easily removed. The principle of the invention is adapted also for self-contained presses, and for punching, riveting and similar tools.

18,282. — ELECTRICAL JUNCTION-BOXES: *J. A. Jeckell.*—The bolts and nuts which secure the two halves of the box to one another also unite lugs upon the halves or upon metallic half-clips. The boxes (of earthenware, &c.) are after the kind (of iron) specified in No. 17 525 of 1894.

18,301.—WIRE SCREENS FOR SIFTING, SCREENING, &C.: *R. Harwood and H. Callon.*—The frame of a reversible screen has sides and inclined end plates pierced for the square-headed pins upon which the wires are stretched, the tension being imparted by means of a box-key. The number of wires can be altered for varying the mesh, being evenly spaced with grooved or screwed rods, and the screen can serve for the bottom of an inclined shoot.

18,308.—IMPROVEMENTS IN KILNS: *A. T. Macfarlane.*—A fixed or rotatory casing is disposed around an ordinary rotatory kiln, the space within is utilised for drying powdered coal, cement, slip, slurry, and so on before they are treated in the kiln, the material being distributed and conveyed by buckets, projections, helical blades, screws, &c., inside the casing.

18,335—A CONTRIVANCE FOR FASTENING SASH-CORDS: *O. Wallman.*—A block, grooved around its periphery, has two parallel holes; one end of the cord is passed through one of the holes, through the counter-weight, through the other hole in the block, around the groove, and then through the loop thus formed above the block; the other end of the cord is attached to the sash by means of a similar block.

18,339.—SLABS AND COVERINGS FOR WALLS, CEILINGS, BULKHEADS, &C.: *J. Christie.*—Slabs for sound-deadening and fire-proofing purposes consist of silicate cotton laid between expanded metallic sheets and wire net-work with staples and wire holders; a sheet of stout paper may be inserted between the metal and the cotton, and the ribs of the expanded sheets are inclined so as to hold plaster.

18,350.—KILNS AND FURNACES FOR CEMENT: *Fellner and Ziegler.*—The inventors provide a metallic removable head which joins the burning and cooling drums, or the burning and drying drums, and fit it up with a water-circulating jacket or with a fire-resisting lining.

18,360.—A STAGE FOR USE IN BUILDING, HOUSE PAINTING, &C.: *M. Sarpy.*—The stage is adapted for use in repairing and painting staircases. It rests upon two cross-bars, which are supported by the horizontal bar or arm of a vertical piece or standard, on which are a bracket or foot, a swivel-catch fitted with cords, and guard-rods. The foot will rest upon one of the steps of the stair, and the vertical standard can be fastened in position by means of cords and cross-bars. A gusset-plate joins the horizontal bar beneath the stage and the vertical limb.

18,369.—STAIR TREADS: *E. S. Higgins and Safety Tread Syndicate.*—Strengthening ribs are fashioned lengthwise and transversely upon the treads, which also are recessed to take the risers. The open-flanged frames, recessed for the risers, are bolted on to stringers of wood or metal, or are built into the walls, and drainage-channels extend around them. Screws through lugs in the frames keep the treads in position, and the joints are packed to render them watertight. The steps are described as being more particularly adapted for heavy traffic, and the treads are after the kind specified in No. 5,988 of 1891.

18,374.—A COVERING FOR WALLS, &C.: *Salubra-tapeten-Fabrik Basel.*—A textile fabric is firstly printed or coated with oil paints, colours, and so on, and is then treated with an embossing-roller, very finely fluted, in order to give a silky gloss or similar effect to the surface of the fabric.

18,400-1.—FACING-TILES AND WALL-BLOCKS: *T. J. Woods.*—The tiles are fashioned with dove-tailed grooves on their backs in order to take cement or plaster. The blocks for damp-proof courses are pierced and have rebated interlocking edges, cement being filled in the joints.

18,406.—A CIRCULAR-SAW GUARD: *W. Grant and W. Grant.*—On the radial arm of the carrying-bracket is adjusted a middle piece, to which are hinged two extensions, which constitute the guard; a ratchet-toothed rod which engages with a fixed arm will enable one to set the front hinged piece at any angle desired, and a stop restricts the height to which the other hinged piece can be lifted. At the back of the bench is a forked bracket, adjustably secured with bolts and slots, on to which the radial arm is hinged. The riving-knife is fixed to a plate underneath the bench, and a T-headed bolt through a slot serves for clamping the radial arm in its place, the bolt being turned and tightened up.

18,433.—A LADDER FOR ESCAPE FROM FIRE AND FOR WORKMEN'S USE COMBINED: *J. Charman.*—The links of a folding ladder are pivoted together, and through some of them are passed the rungs which are secured with rivets; struts, threaded upon a common rod, carry the ladder at a suitable distance from the wall, and they are joined to some of the links with screwed bolts or rods passing either through the links outside the rungs or through the rungs themselves; in another form short screws through the thickened and tapped centres of the links are employed for fastening the struts to the ladder links; chains, clamped to the window-sill, are attached to the top of the ladder, which may be adapted as a stage for use in painting, decorating, window-cleaning, and so on, by detaching its lower portion and fastening the upper five rungs in a line by the struts and two further pairs of tie-rods at its lower end; the workman will stand upon the bottom rung, and steady himself against a cross-bar between the tie-rods.

18,437. — TREADS FOR PAVING AND SIMILAR PURPOSES: *Universal Safety Tread Co.*—The inventors devise means for joining a non-slipping material to base plates of hard metal; they cause strips of lead, or some such non-slipping material, to be pressed between parallel rows of projections fashioned upon the base plates; after that operation the projections are forced inwards into the strips which are secured in their places by means of spaced holes in the plates.

MEETINGS.

FRIDAY, FEBRUARY 14.

Architectural Association.—Miss Ethel M. Charles, A.R.I.B.A., on "A Plea for Women Practising Architecture." 7.30 p.m.

Sanitary Institute (*Lectures for Sanitary Officers*).—Dr. J. Priestley on "Sanitary Law."—II. 7 p.m.

Sheffield Society of Architects and Surveyors.—Mr. C. Hadfield on "True Building."

Institution of Civil Engineers.—(Students' meeting). Mr. C. Johnston on "Some Public Health Aspects of the Question of Sewage Disposal." 8 p.m.

SATURDAY, FEBRUARY 15.

Architectural Association.—Second Spring Visit, to the Victoria and Albert Museum and Royal College of Science, Kensington, by permission of the architect, Mr. Aston Webb, A.R.A. 2.30 p.m.

Royal Institution. — Rt. Hon. Lord Rayleigh on "Some Electrical Developments"—I. 3 p.m.

Hartley College Engineering Society (*Southampton*).—Mr. McFadyean on "Southampton Docks: Past and Present." 7 p.m.

MONDAY, FEBRUARY 17.

Royal Institute of British Architects.—Mr. F. W. Bedford on "Baldassare Peruzzi." Illustrated by Lantern Slides. 8 p.m.

London Institution.—Mr. E. Freshfield, F.S.A., on "Archæology in London as a Pastime for a Busy Man." 5 p.m.

Society of Arts (*Cantor Lectures*). — Mr. Cyril Davenport, F.S.A., on "Personal Jewellery from Prehistoric Times"—II. 8 p.m.

Royal Philosophical Society of Glasgow (*Architectural Section*).— Professor Cooper, D.D., on "An Early Description of an East Syrian Church with its Connected Buildings, from the recently published 'Testamentum Domini,' with some Notices of the Service at that time."

Liverpool Architectural Society. — Mr. R. Holt on "Brickwork." 6 p.m.

Church Crafts' League (*Clifford's Inn, Fleet-street*).—Mr. Roger Fry, M.A., on "Art Patronage of the Church in Italy during the Fifteenth Century."

TUESDAY, FEBRUARY 18.

Sanitary Institute (*Lectures for Sanitary Officers*).—Dr. J. Priestley, B.A., on "Sanitary Law"—III. 8 p.m.

Institution of Civil Engineers.—Messrs. W. M. Mordey and Bernard M. Jenkin on "Electrical Traction on Railways." 8 p.m.

WEDNESDAY, FEBRUARY 19.

Sanitary Institute (*Lectures for Sanitary Officers*).—Dr. J. Priestley, B.A., on "Duties of a Sanitary Inspector: I.: Outdoor." 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary Meeting of the Members. 8 p.m.

Edinburgh Architectural Association.—Mr. R. F. Sherar on "Architectural Perspective." Illustrated by lime-light views. 8 p.m.

Institution of Civil Engineers.—Students' visit to the Works of Messrs. John I. Thornycroft & Co., Ltd. Church Wharf, Chiswick, W. 2.30 p.m.

THURSDAY, FEBRUARY 20.

Institution of Electrical Engineers (*Dublin Section*).—Mr. W. Tatlow, M.A., on "Irish Water-Power and its Electrical Development." 7.30 p.m.

Carpenters' Company (*Free Lectures on Matters connected with Building*).—Professor J. A. Fleming on "The Transmission of Light and Electricity." 8 p.m.

FRIDAY, FEBRUARY 21.

Architectural Association Discussion Section.—Mr. F. C. Eden on "The Organ: Its Proper Position and Architectural Treatment." 7.30 p.m.

Royal Institution.—Mr. W. Duddell on "Musical and Talking Electric Arcs." 9 p.m.

Sanitary Institute (*Lectures for Sanitary Officers*).—Dr. Priestley, B.A., on "Duties of Sanitary Inspectors: II.: Indoor." 8 p.m.

Institution of Mechanical Engineers. — Fifty-fifth Annual General Meeting, when the annual report of the Council will be presented to the meeting, and the results of the ballot for the annual election of the President, Vice-Presidents, and Members of Council will be announced. Subsequently, the meeting will be made "Special," for the consideration of a preposal to increase the number of ordinary Members of Council from fifteen to twenty-one, and to provide that seven instead of five Members of Council shall retire annually. The discussion on "Modern Machine Methods" will be concluded, and the author, Mr. H. F. L. Orcutt, will reply. If time permit, the following short papers on the "Fencing of Different Kinds of Machinery" will be presented, with a view to their being collectively discussed on Friday, March 21:—"Fencing of Steam and Gas Engines," by Mr. Henry D. Marshall; "Fencing or Guarding Machinery Used in Textile Factories," by Mr. Samuel R. Platt; "Protection of Lift-Shafts, and Safety Devices in Connexion with Lift-Doors and Controlling Gear," by Mr. Henry C. Walker; "Guarding Machine Tools," by Mr. W. H. Johnson.

Birmingham Architectural Association. — Paper by Mr. E. Wood.

Glasgow Architectural Craftsmen's Society.—Mr. T. S. Fraser on "The Renaissance of Scotland." 8 p.m.

SATURDAY, FEBRUARY 22.

Builders' Foremen and Clerks of Works' Institution.—Annual dinner, King's Hall, Holborn Restaurant. 6 p.m.

Builders' Foremen's Association.—Mr. A. S. E. Akermann, M.Inst C.E., on "Five thousand miles through the States of America."

Institution of Junior Engineers.—Visit to the New Baths and Washhouses of the Borough of Fulham, Melmoth-place. 3 p.m.

Royal Institution. — Rt. Hon. Lord Rayleigh on "Some Electrical Developments" (II.). 3 p.m.

Sanitary Institute (*Demonstrations for Sanitary Officers*).—Inspection at Lambeth Disinfecting Station, Wanless-road, Loughborough Junction. 3 p.m.

Edinburgh Architectural Association.—Visit to the North British Railway Co.'s Hotel at Waverley.

Dundee Institute of Architecture. — Visit to Dunfermline.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

January 30.—By HARDS & BRADLY (at Greenwich).

Greenwich.—5, 7, and 9, Royal Hill, f., r. 98*l.* 10s.	£1,420
51, London-st., f., r. 65*l.*	1,130
48, Point Hill, f., r. 28*l.*	465
67, Ashburnham-grove, u.t. 44 yrs., g.r. 4*l.* 10s., r. 28*l.*	300
13 and 15, Norman-rd., u.t. 41½ yrs., g.r. 6*l.*, r. 39*l.*	330
17, 19, and 21, Norman-rd., u.t. 40 yrs., g.r. 9*l.*, r. 58*l.* 10s.	430
1, 3, and 5, Dutton-st., u.t. 18½ yrs., g.r. 1*l.* 10s.	415
Point Hill, f.g.r. 11*l.* 5s., reversion in 80½ yrs...	310
12, Earlswood-st., f., r. 26*l.*	410
Blackheath.—1, Mildred-villas, f., r. 34*l.*	560
Lewisham.—198, Ennersdale-rd., u.t. 65½ yrs., g.r. 4*l.* 10s.	260

By BRIDGMAN & SON (at Waltham Cross).

Cheshunt (Herts).—Longfield-lane, enclosure of land, 5 a. 2 r. 18 p., f.	820
Longfield-road, moiety of plot of land, 1 a. 0 r. 21 p., f.	220
Park-lane, Black Dole Field, 5 a. 0 r. 8 p., f.	850

February 4.—By DEBENHAM, TEWSON, & Co.

Hoxton.—1 to 7, Academy Buildings (warehouses, u.t. 57 yrs., g.r. 214*l.*, r. 895*l.* £5,250

Islington.—Lofting-rd., f.g.r.'s 28*l.* 7s., reversion in 7 yrs..... 2,475

Lofting-rd., &c., f.g.r.'s 99*l.*, reversion in 7 yrs. 840

Thornhill-rd., &c., f.g.r.'s 69*l.*, reversion in 7 yrs..... 5,000

Upper Park-st., peppercorn g.r., reversion in 7 yrs..... 1,650

Liverpool-rd., &c., f.g.r.'s 57*l.*, reversion in 7 yrs..... 7,150

Upper Park-st., f.g.r. 20*l.*, reversion in 7 yrs. .. 2,700

Lofting-rd., f.g.r.'s 76*l.*, reversion in 7 yrs. 6,420

Lofting-rd., The Barnsbury Arms b.-h., f.g.r. 6*l.*, reversion in 7 yrs..... 1,050

Liverpool-rd., f.g.r.'s 22*l.*, reversion in 7 yrs... 1 940

By G. HERBERT-BURNS.

Gunnersbury.—14, Thorney Hedge-rd., f., r. 38*l.* 600

By S. WALKER & SON.

Bermondsey.—14, Kintore-st., u.t. 51 yrs, g.r. 3*l.* 4s. 173

Stockwell.—Hubert-gr., f.g.r.'s 54*l.*, reversion in 77½ yrs..... 1,350

Hubert-gr., f.g.r.'s 7*l.*, reversion in 77½ yrs..... 220

Landor-rd., f.g.r.'s 26*l.*, reversion in 77½ yrs. .. 755

Landor-rd., f.g.r.'s 6*l.*, reversion in 77½ yrs..... 397

Highbury.—Avenell-rd., &c., f.g.r. 18*l.*, reversion in 76 yrs..... 500

Surbiton, Surrey.—Paragon-gr., f.g.r.'s 22*l.*, reversion in 92 yrs..... 560

Plaistow.—High-st., f.g.r. 30*l.*, reversion in 35 yrs. 900

By HUMBERT & FLINT (at Watford).

Bushey, Herts.—8 and 10, High-st., f. 240

February 5.—By Horne & Co.

Bayswater.—104 and 108, Queen's-rd., u.t. 4¾ yrs., g.r. 20*l.*, r. 195*l.* 10s. 3,300

By FRANK JOLLY & Co.

Leytonstone —74, Wallwood-rd., f., r. 24*l.* 360

By REYNOLDS & EASON.

Fitzroy-sq.—8, Charlotte-st., c., r. 65*l.* 1,700

February 6.—By H. J. BROMLEY.

Forest Hill.—93, Brockley-rise, u.t. 68¼ yrs., g.r. 6*l.* 395

Whatman-rd., a plot of freehold land 210

133 and 135, Stanstead-rd., u.t. 75 yrs., g.r. 18*l.* 18s., r. 102*l.* 1,090

By C. H. BROWN.

Pimlico.—64, Lupus-st., u.t. 26½ yrs., g.r. 12*l.*, r. 90*l.* 870

118, Alderney-st., u.t. 20½ yrs., g.r. 9*l.*, r. 55*l.*... 480

50 and 56, Ranelagh-rd., u.t. 22 yrs., g.r. 15*l.*, r. 72*l.* 425

Dorset-st., Dorset Mews, stabling and yard, u.t. 41 yrs., g.r. 12*l.*, e.r. 40*l.* 305

9, Effingham-st., u.t. 28 yrs., g.r. 16*l.*..... 350

Shoreditch.—38, Hackney-rd., f., e.r. 60*l.*..... 670

By NEWBON, EDWARDS, & SHEPHARD.

Kentish Town.—30, Leighton-grove, u.t. 39 yrs., g.r. 8*l.* 15s., e.r. 42*l.* 355

Holloway.—9, Victor-rd., u.t. 70½ yrs., g.r. 6*l.*.... 300

Hornsey.—94, Lausanne-rd., f., e.r. 55*l.* 670

By WORSFOLD & HAYWARD (at Dover).

Dover, Kent.—12, St. Andrew's-ter., f..... 305

10, Branch-st., f..... 110

2, Guildford-ter., u.t. 63½ yrs., g.r. 4*l.* 10s..... 300

Northampton-st., workshop and stores, u.t. 64 yrs, g.r. 1*l.* 10s., r. 15*l.* 250

37½, Snargate-st., and stable, &c., in rear, u.t. 64 yrs., g.r. 6*l.*, r. 5*l.* 300

Shepherdswell, Kent.—The Ter., Sunnyside, f., r. 30*l.*..... 350

Lydden, Kent.—Dover-rd., the Hope Inn b.-h., f., r. 30*l.* 1,150

Dover-rd., four freehold cottages..... 230

Dover-rd., two freehold meadows, 7 a. 2 r. 0 p... 280

February 7.—By RIDER & SONS.

Notting Hill.—1 and 3, Mary-pl., u.t. 30 yrs., g.r. 12*l.* 10s., r. 70*l.* 4s. 460

Acton.—29 and 31, Rothschild-rd., f., r. 65*l.*..... 620

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Hard Stocks	1 11 6	per 1,000 alongside, in river.
Rough Stocks and Grizzles.....	1 9 6	,, ,, ,,
Facing Stocks	2 12 0	,, ,, ,,
Shippers	2 5 0	,, ,, ,,
Flettons	1 8 0	,, ,, ,,
Red Wire Cuts ..	1 12 0	,, at railway depôt.
Best Fareham Red	3 12 0	,, ,, ,,
Best Red Pressed Ruabon Facing.	5 5 0	,, ,, ,,
Best Blue Pressed Staffordshire ..	4 6 6	per 1,000 at railway depot.
Do., Bullnose	4 10 0	,, ,, ,,
Best Stourbridge Fire Bricks	4 5 6	,, ,, ,,

GLAZED BRICKS

Best White and Ivory Glazed Stretchers.....	13 0 0	,, ,, ,,
Headers	12 0 0	,, ,, ,,
Quoins, Bullnose, and Flats	17 0 0	,, ,, ,,
Double Stretchers	19 0 0	,, ,, ,,
Double Headers..	16 0 0	,, ,, ,,
One Side and two Ends	19 0 0	,, ,, ,,
Two Sides and one End	20 0 0	,, ,, ,,
Splays, Chamfered, Squints.....	20 0 0	,, ,, ,,

PRICES CURRENT (*Continued*).

BRICKS, &c.

	£ s. d.	
Best Dipped Salt Glazed Stretchers and Headers ..	12 0 0	per 1,000 at railway depot.
Quoins, Bullnose, and Flats	14 0 0	,, ,, ,,
Double Stretchers	15 0 0	,, ,, ,,
Double Headers..	14 0 0	,, ,, ,,
One Side and two Ends	15 0 0	,, ,, ,,
Two Sides and one End	15 0 0	,, ,, ,,
Splays, Chamfered, Squints.....	14 0 0	,, ,, ,,
Seconds Quality White and Dipped Salt Glazed	2 0 0	,, less than best.

	s. d.	
Thames and Pit Sand	7 3	per yard, delivered.
Thames Ballast	6 0	,, ,,
Best Portland Cement	32 0	per ton, delivered.
Best Ground Blue Lias Lime..	25 0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime.....	11s. od. per yard, delivered.
Stourbridge Fire-clay in sacks, 26s. 6d. per ton at rly. dpt.	

STONE.

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. depôt.
Bath ,, ...	1 7	,, ,,
Farleigh Down Bath ..	1 8	,, ,,
Beer in blocks	1 6½	,, ,,
Grinshill ,, ...	1 10	,, ,,
Brown Portland in blocks	2 2	,, ,,
Darley Dale in blocks..	2 4	,, ,,
Red Corsehill ,,	2 5	,, ,,
Closeburn Red Freestone	2 3	,, ,,
Red Mansfield ,,	2 4	,, ,,
Hard York in blocks ..	2 10	,, ,,

	s. d.	
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 8	per ft. super. at rly. depôt.
,, ,, 6 in. Rubbed Ditto..	3 0	,, ,,
,, ,, 5 in. sawn both sides slabs (random sizes)	1 3	,, ,,
,, ,, 2 in. self-faced Ditto	0 9½	,, ,,
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube. deld. rly. depôt.
,, ,, ,, 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt.
,, ,, 3 in. do.	1 2½	,, ,,

SLATES.

in.	in.	£ s. d.	
20×10 best blue Bangor..		12 0 0	per 1000 of 1200 at rly. dep.
,, best seconds ,,		11 10 0	,, ,,
16× 8 best ,,		6 15 0	,, ,,
20×10 best blue Portmadoc ..		11 5 0	,, ,,
16×8 best blue Portmadoc		6 0 0	,, ,,
20×10 best Eureka unfading green....		12 2 6	,, ,,
16× 8 ,, ,,		7 5 0	,, ,,
20×10 permanent green		10 5 0	,, ,,
16×8 ,, ,,		5 17 6	,, ,,

TILES.

	s. d.	
Best plain red roofing tiles..	4 1 6	per 1,000, at rly. depôt.
Hip and valley tiles....	3 7	per doz. ,, ,,
Best Broseley tiles	4 8 6	per 1,000 ,, ,,
Hip and valley tiles....	4 0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 ,, ,,
Do. ornamental Do.	60 0	,, ,, ,,
Hip tiles	4 0	per doz. ,, ,,
Valley tiles	3 9	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes) .	50 9	per 1,000 ,, ,,
Hip tiles	4 1	per doz. ,, ,,
Valley tiles.....	3 8	,, ,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	14 10 0	16 0 0
Deals: best 3 by 9.....	13 10 0	15 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.....	10 10 0	11 10 0
Battens: best 2½ by 6 and 3 by 6 ..	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	,, ,, ,,
2 in. by 4 in. and 2 in. by 6 in. ..	8 10 0	9 10 0
2 in. by 4½ in. and 2 in by 5 in. ..	8 0 0	9 0 0
Foreign Sawn Boards— 1 in. by 1¼ in. by 1¾ in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks.....	2 15 0	3 0 0
Pitch-pine timber (30 ft.).....	3 0 0	3 10 0

JOINERS' WOOD.

	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.	22 0 0	23 0 0
3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Second yellow deals, 3 in. by 11 in.	18 0 0	20 0 0
,, ,, 3 in. by 9 in.	16 10 0	18 10 0
Battens, 2½ in. and 3 in. by 7 in.	13 0 0	14 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	15 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0

PRICES CURRENT (*Continued*).

WOOD.

	At per standard. £ s. d.	£ s. d.
Petersburg: first yellow deals, 3 in. by 11 in.	20 0 0	21 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens.....	13 0 0	14 0 0
Second yellow deals, 3 in. by 11 in.....	15 0 0	16 10 0
Do. 3 in. by 9 in.	13 10 0	14 10 0
Battens.....	11 0 0	12 0 0
Third yellow deals, 3 in. by 11 in.....	12 10 0	13 10 0
Do. 3 in. by 9 in.	12 0 0	13 0 0
Battens.....	10 0 0	11 0 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in.	14 0 0	15 0 0
,, ,, ,, 3 in. by 9 in.	13 0 0	14 0 0
Battens.....	11 0 0	12 0 0
Second white deals 3 in. by 11 in.	13 0 0	14 0 0
,, ,, ,, 3 in. by 9 in.	12 0 0	13 0 0
,, ,, ,, battens.....	9 10 0	10 10 0
Pitch-pine: deals	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes..	32 0 0	33 10 0
Broads (12 in. and up).....	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube..	0 3 6	0 4 6
Danzig and Stettin Oak Logs— Large, per ft. cube	0 2 6	0 3 0
Small ,, ,, ...	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube ..	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7½	0 0 8
¾ in. do. do.	0 0 7	- - -
Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks— Per ft. cube.....	0 3 0	0 3 6

Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 0	0 16 6
1 in. by 7 in. yellow, planed and matched	0 13 6	0 17 6
1¼ in. by 7 in. yellow, planed and matched	0 15 0	1 0 0
6 in. at 6d. per square less than 7 in.		
1 in. by 7 in. white, planed and shot	0 11 0	0 12 6
1 in. by 7 in. white, planed and matched	0 11 6	0 13 6
1¼ in. by 7 in. white, planed and matched	0 13 6	0 15 6
6 in. at 6d. per square less than 7 in.		

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 2 6	7 2 6
Compound Girders ,, ,,	7 17 6	8 17 6
Angles, Tees and Channels, ordinary sections	7 17 6	8 17 6
Flitch Plates	8 5 0	8 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 0 0	8 0 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON— Common Bars.....	8 0 0	8 10 0
Staffordshire Crown Bars, good merchant quality	8 10 0	9 0 0
Staffordshire "Marked Bars" ..	10 10 0	- - -
Mild Steel Bars.....	9 0 0	9 10 0
Hoop Iron, basis price.....	9 5 0	9 15 0
,, ,, galvanised.....	16 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.— Ordinary sizes to 20 g.....	10 0 0	- - -
,, ,, to 24 g.....	11 0 0	- - -
,, ,, to 26 g.....	12 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	12 10 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.....	14 0 0	- - -
Sheet Iron, Galvanised, flat, best quality:— Ordinary sizes to 20 g.....	16 10 0	- - -
,, ,, 22 g. and 24 g.	17 0 0	- - -
,, ,, 26 g.....	18 10 0	- - -
Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 10 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.	14 0 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker ..	12 5 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Cut nails, 3 in. to 6 in.	9 10 0	10 0 0
(Under 3 in. usual trade extras.)		

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	14 0 0	- - -
Pipe in coils	14 10 0	- - -
Soil Pipe.....	17 0 0	- - -
ZINC—Sheet— Vieille Montagne..... ton	24 10 0	- - -
Silesian	24 0 0	- - -
COPPER— Strong Sheet..... per lb.	0 1 0	- - -
Thin ..... ,,	0 1 1½	- - -
Copper nails..... ,,	0 1 1½	- - -
BRASS— Strong Sheet..... ,,	0 0 11	- - -
Thin ,, ... ,,	0 1 1	- - -
TIN—English Ingots..... ,,	0 1 3	- - -
SOLDER—Plumbers' ..... ,,	0 0 6½	- - -
Tinmen's ..... ,,	0 0 8	- - -
Blowpipe ..... ,,	0 0 9	- - -

[*See also page 171.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Laying-out Pleasure Ground	Aldershot U.D.C.	20*l.*, 10*l.* and 5*l.*	Mar. 1
*Proposed Public Offices	do.	100*l.*, 75*l.* and 50*l.*	Mar. 29
*New Town Hall	Harrogate Corporation	150*l.*, 100*l.*, and 75*l.*	May 14

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c, Supplied by	Tenders to be delivered
Police Station, Hurst, near Ashton-under-Lyne	.....	H. Littler, Architect, County Offices, Preston	Feb. 18
Surveyor's Materials	Bury (Lancs) Corporation	A. W. Bradley, Civil Engineer, Town Hall, Bury	do.
Two Cottages, Gelly Burn, Downfield	Dundee Water Commissioners	G. Baxter, Civil Engineer, 93, Commercial-street, Dundee	do.
Sewerage Works, Shotley Bridge, Durham	Benfieldside U.D.C.	J. E. Parker, Civil Engineer, Post Office Chambers, Newcastle	do.
Concreting, &c, a Lake, Alexandra Park	Oldham Corporation	S. A. Pickering, Civil Engineer, Town Hall, Oldham	do.
Additions to House, Carlton, Skipton	Mr. J. A. Slingsby	J. Hartley, Architect, Skipton	do.
Two New Roads, Bordesley Green	Birmingham Corporation	City Engineer, Town Hall, Birmingham	do.
House, Brinton-terrace, Halifax	.....	Walsh & Nicholas, Architects, Halifax	do.
Road Stone, &c.	Middlesbro' R.D.C.	W. H. Dixon, Surveyor, Kirby-in-Cleveland, Stokesley	do.
Sewers, &c., Hatherton-street	Walsall Corporation	J. R. Cooper, Borough Offices, Walsall	do.
House, Pitglassie, N.B.	.....	Duncan & Son, Architects, Turriff	do.
Bridge Works	Ilkley U.D.C.	Surveyor, Council Offices, Ilkley	Feb. 19
Auction Mart, Cornhill, Elgin, N.B.	Northern Auction Company, Ltd.	C. C. Doig, Architect, Elgin	do.
Sewerage Works, Donnybrook	South Dublin R.D.C.	T. J. Byrne, 1, James'-street, Dublin	do.
Road Stone, &c.	Stokesley R.D.C.	W. H. Dixon, Surveyor, Kirby-in-Cleveland, near Stokesley R.S.O	do.
Road Works, Moortown	Leeds Guardians	P. Robinson, Architect, 72, Albion-street, Leeds	do.
Additions to Baths, Main-street	Glasgow Corporation	J. Lindsay, City Chambers, Glasgow	do.
*Yearly Contracts	Brough of Hampstead	Borough Engineer, Town Hall, Hampstead	do
Reading Room, &c., Abercanaid	Merthyr Tydfil U.D.C.	T. A. Rees, Town Hall, Merthyr	Feb. 20
Rebuilding Trevor Arms Inn, Penywern, Dowlais	Messrs. Mew, Langton, & Company	C. M. Davies, 112, High-street, Merthyr	do.
Additions to Hotel, Minstead, Hants	.....	Lemon & Blizard, Architects, Castle-lane, Southampton	do.
Twenty-four Villas, Dromalane, Newry, Ireland	.....	W. J. Watson, Architect, Benvenue, Rostrevor	do.
Sewers, &c., Harbledown, near Canterbury	Bridge District Council	A. Bromley, Engineer, Radnor Chambers, Folkestone	do.
Surveyor's Materials	Bebington (Cheshire) U.D.C.	T. Sproat, 5, Castle-street, Liverpool	do.
Sewers, &c., Short Heath, near Birmingham	Aston Manor U.D.C.	Surveyor, Council House, Aston Manor	do.
Broken Granite (5,732 tons)	Horncastle (Lincs) R.D.C.	J. E. Chatterton, Council Offices, Horncastle	do.
Retaining Walls	Radstock (Somerset) U.D.C.	G. H. Gibson, Surveyor, Radstock	do.
House, Seascale, Cumberland	Miss Hodgson	G. Boyd, Civil Engineer, 33, Queen-street, Whitehaven	do.
Sewerage Works	Criccieth (Wales) U.D.C.	M. Williams, Surveyor, Criccieth	Feb. 21
Alterations to Shops, Westgate &c.	Huddersfield Corporation	Borough Engineer, Town Hall, Huddersfield	do.
Well Sinking	Leamington Corporation	W. de Normanville, Civil Engineer, Town Hall, Leamington	do.
Alterations to Chapel, Garnfach, Nantyglo	.....	Rev. S. Bryant, Brynmawr, Wales	do.
Road Metal, &c, Northants	Hardingstone R.D.C.	J. Haviland, 2, St. Giles'-square, Northampton	do.
Rebuilding Bridge	Willenhall U.D.C.	F. E. Fellows, Civil Engineer, Town Hall, Willenhall	Feb. 22
Chapel, Pontardawe, Wales	.....	W. W. Williams, Architect, 63, Wind-street, Swansea	do.
Fencing Recreation Ground, at Cty. Schl., Pontypridd	.....	A. O. Evans, Architect, Pontypridd	do.
Pair Villas, Linden-road, Halifax	.....	A. G. Dalzell, Architect, 15, Commercial-street, Halifax	do.
Additions to Workhouse, Beeston-road	Holbeck Guardians	T. Winn & Sons, Architects, 92, Albion-street, Leeds	do.
Sewerage Works, James, &c. Streets, New Tredegar	Bedwellty U.D.C.	J. H. Lewis, Civil Engineer, Blackwood, Mon	do.
Additions to Schools, Ogmore Vale, Wales	Llangeinor School Board	T. J. Thomas, Architect, Bridgend	do.
Boring	Leyland (Lancs.) U.D.C.	W. Wrennall, Engineer, 9, Harrington-street, Liverpool	do.
Paving Works, Eightlands-road	Dewsbury Corporation	Borough Surveyor, Town Hall, Dewsbury	do.
Whinstone, &c.	Ayr Town Council	A. Stevenson, Road Surveyor, 14, Cathcart-street, Ayr	do.
Broken Granite, (1,200 tons)	Sibsey (Lincs.) R.D.C.	J. M. Simpson, Council Offices, Sibsey	do.
*Cleaning University College Hospital	The Committee	Hospital, Gower-street, W.C.	do.
Surveyor's Materials, Lewes	East Sussex County Council	F. J. Wood, Civil Engineer, County Hall, Lewes	Feb. 23
Workshops, Brunswick-terrace, Gateshead	.....	L. H. Armour, 16, West-street Gateshead	Feb. 24
*Coarse Bacteria Beds	Hendon U.D.C.	Council's Engineer, Public Offices, Hendon, N.W.	do.
*Wrought-iron Fencing and Gates, Oak Fencing, &c	London County Council	Park's Department, 11, Regent-street, S.W.	do.
Alterations to Schools, St. Peter's, Cardiff	.....	James & Morgan, Architects, Charles-street Chambers, Cardiff	do.
Offices, Darlington	Weardale & Shildon Water Co.	W. T. Jones, 7A, North Bailey, Durham	do.
Granite and Slag (2,900 tons)	Newark R.D.C.	R. Oakden, junr., Surveyor, Kirkgate, Newark	do.
Paving, &c., The Fairfield, Newcastle Emlyn, Wales	.....	T. Thomas, Surveyor, Newcastle Emlyn	do.
Sewers, &c., East Morton	Keighley R.D.C.	H. M. Bullerfield, Civil Engineer, 3, Laythorpe-ter., East Morton	do.
Surveyor's Materials	Rawtenstall (Lancs.) Corporation	Borough Surveyor, Rawtenstall	do.
Road Materials	Penarth U.D.C.	E. T. Evans, Civil Engineer, Cardiff	do.
Water Supply Works, Thornton-in-Lonsdale	Settle R.D.C.	T. A. Foxcroft, Town Hall, Settle	do.
Road Works, Merrow	Guildford R.D.C.	J. Anstie, Surveyor, Commercial-road, Guildford	do.
Sewerage Works, Overbury	Tewkesbury R.D.C.	H. A. Badham, Council Offices, Tewkesbury	do.
Two Storage Reservoirs	Bathgate (N.B.) Town Council	Shaw & Morton, Engineers, 128, Wellington-street, Glasgow	do.
Additions to School	Jarrow School Board	T. H. Spencer, School Board Offices, Jarrow	do.
Sewerage Works, Minworth	Castle Bromwich U.D.C.	Willcox & Raikes, Engineers, 63, Temple-row, Birmingham	Feb. 25
Additions to Schools, Kent-street, Portsea	Portsmouth School Board	A. H. Bone, Architect, Cambridge Junction, Portsmouth	do.
Street Works, Albert-street, &c.	Stanley (Durham) U.D.C.	J. Routledge, Surveyor, Council Offices, Stanley	do.
*Supply of Portland Cement	London County Council	Manager, Works Department, Belvedere-road, S.W.	do.
*Alterations to Sanitary Arrangements at Infirmary	Shoreditch Guardians	F. J. Smith, Architect, Parliament Mansions, Victoria-st., S.W	Feb. 26
Water Supply Works	Cannock (Staffs) R.D.C.	W. E. Rogers, Engineer, Anson-street, Rugeley	do.
*Road Making and Paving Works	Barnet U.D.C.	Council's Surveyor, 40, High-street, Barnet	do.
*Making-up Roads	Wood Green U.D.C.	Council's Surveyor, Town Hall, Wood Green	do.
*Supply of Road Materials and Works	do.	do	do.
*Annual Contracts	Hackney Borough Council	Council's Engineer, Town Hall, Hackney, N.E.	Feb. 27
*Rustic Thatched Refreshment Kiosk and Bandstand	Tonbridge U.D.C.	Council's Surveyor, Tonbridge Castle	do.
*Drainage Works	Bognor U.D.C.	Council's Engineer, High-street, Bognor	Feb. 28
Water Supply Works, Leighton Buzzard	Linsdale U.D.C.	Sands & Walker, Engineers, Angel-row, Nottingham	do.
Cast-iron Pipes (260 tons)	do.	do	do.
Police Station, Helston, Cornwall	.....	O. Caldwell, Architect, Victoria-square, Penzance	do.
Annual Contracts (Road Materials)	St. Marylebone Council	Council's Engineer, Town Hall, Marylebone-lane, W.	Mar. 1
*Annual Contracts (Works and Materials)	do.	do.	do.
*New Custom House, Manchester	Commissioners of H.M. Works, &c.	Collector's Office, Custom House, Manchester	Mar. 3
*Annual Contracts	Tottenham U.D.C.	The Clerk, 712, High-road, Tottenham	Mar. 4
*Artizans' Dwellings, City-road	Borough of Shoreditch	R. Plumbe, 13, Fitzroy-square, W.	do.
*Receiving Wards, &c., at Infirmary	Wandsworth & Clapham Union	Lansdell & Hamson, Architects, 65, Basinghall-street, E.C.	Mar. 5
Public Offices	New Maldon U.D.C.	Surveyor, 7, Market-place, New Maldon	do.
Paving Jubilee-street and Turner-street	Metropolitan Borough of Stepney	Borough Engineer, 15, Great Alie-street, Whitechapel, E.	Mar. 10
*Electric Generating Station and Offices	West Ham Council	Borough Engineer, Town Hall, West Ham, E.	Mar. 11
*Supply of Materials and Works	Hornsey U.D.C.	Council's Engineer, Southwood-lane, Highgate, N.	Mar. 12
*Extension of Union Workhouse	Newmarket Union	Holland & Sons, Architects, High-street, Newmarket	Mar. 17
*Laying Sewers and other Works	Tewkesbury R.D.C.	Council's Clerk, Tewkesbury	Mar. 24
*Public Hall, Forest Gate	.....	J. W. Acock, Architect, 14, Wormwood-street, E.C.	No date
Lecture Hall, Overton, near Morecambe	.....	A. Gorton, Architect, 24, The Crescent, Morecambe	do.
Additions to Imperial Hotel, Ballyshannon, Ireland	.....	F. M. Lockwood, Architect, Bundoran	do.
Laying Water Pipes, Wortley, Sheffield	.....	Surveyor, Wortley Mineral Estate Office, Bank-street, Sheffield	do.
Villa, Castle Haggs, Kendal	.....	J. Stalker, Architect, Kendal	do.
Bakery, King Edward-street	Grimsby Co-operative Society, Ltd	Athron & Beck, Architects, Dolphin Chambers, Doncaster	do.

[*See also next page.*

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Quantity Surveyor	St. Pancras Council	Not stated	Feb. 19
*Clerk of the Works	Brynmawr School Board	2l. 10s. per week	Feb. 20
*Second Assistant Engineer	Metropolitan Asylums Board	T. Duncombe Mann, Offices of the Board, Embankment, E.C.	Mar. 3
*Temporary Assistants, County Surveyor's Office	Essex County Council	3l. per week each	No date

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv. vi. viii. x. xii. *&* xxii. *Public Appointments,* xvi. *&* xxii.

PRICES CURRENT (*Continued*).

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2¾d.	per ft. delivered.
,, fourths	2¾d.	,, ,,
21 oz. thirds	3¼d.	,, ,,
,, fourths	3¼d.	,, ,,
26 oz. thirds	4¼d.	,, ,,
,, fourths	4¼d.	,, ,,
32 oz. thirds	5¼d.	,, ,,
,, fourths	5¼d.	,, ,,
Fluted sheet, 15 oz.	3¼d.	,, ,,
,, 21 ,,	4¼d.	,, ,,
⅛ Hartley's Rolled Plate	2¼d.	,, ,,
⅜ ,, ,, ,,	2¾d.	,, ,,
¼ ,, ,, ,,	2¾d.	,, ,,

OILS, &c.		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 2 8
,, ,, ,, in barrels	,,	0 2 .
,, ,, ,, in drums	,,	0 2 11
Boiled ,, ,, in pipes	,,	0 2 10
,, ,, ,, in barrels	,,	0 2 11
,, ,, ,, in drums	,,	0 3 1
Turpentine, in barrels	,,	0 2 6
,, in drums	,,	0 2 8
Genuine Ground English White Lead	per ton	21 0 0
Red Lead, Dry	,,	21 0 0
Best Linseed Oil Putty	per cwt.	0 8 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 0
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahog..ny Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

P. H. P. (Below our limit.) A. W. B.—S. F. H. (Amounts should have been stated.)

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BALHAM.—For the erection of two shops and premises on the site of 279, Balham High-road, for Mr. H. W. Nightingale. Mr. Horace E. Rossiter, architect, 61 and 62, Chancery-lane, London. Quantities by Mr. Frederick G. Fletcher, 61 and 62, Chancery-lane, W.C.:—

	Stonework in Portland.	Saving if Bath Stone used.
F. and H. Higgs	£2,790	£18
J. Carmichael	2,588	20
J. A Bartram	2,538	48
Lathey Bros.	2,537	25
Garrett & Son	2,450	36
W. Lorden & Son	2,322	23
E. Triggs	2,200	23
H. Line*	2,136	30

* Accepted (using Bath stone) at £2,106.

CLONMEL (Co. Tipperary).—For sanitary improvements, &c., at workhouse. Mr. E. A. Hackett, engineer County Surveyor:—

—	Section 1. Drainage.	Section 2. Water Supply.	Sections 3 & 4. Plumbing.	Sections 5 & 6. Building.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
J. & P. Goad	570 0 0	725 0 0	400 0 0	900 0 0
P. Blake	582 2 9	781 18 10	289 14 4	979 5 8
McGuire & Gatchell	591 17 0	789 14 5	354 19 1	—
T. & W. Little	433 10 6	731 8 2	294 10 9	919 3 4
Cleary & Co.	712 5 6	1,028 11 7	325 5 0	958 16 9
B. White	603 13 5	1,010 7 2	338 16 1	1,015 11 0
R. Costelloe, Waterford	*430 9 10	711 17 6	*280 2 1	—
Power & Son	—	770 6 7	278 14 8	—
Danl. Hayes	460 7 0	563 7 7	281 17 9	—
Wm. Baird	725 6 0	870 1 2	314 16 6	—
H. Bates, Clonmel	506 18 0	—	—	*905 16 7
Clure & Son	464 11 10	—	—	926 0 2
J. Hindry	—	—	282 18 8	—
J. Kennedy	474 17 4	818 17 7	340 6 3	1,093 6 3
Engineer's estimate	518 11 1	762 1 0	293 9 4	620 17 6

[Section 2, Water Supply, to be readvertised for tender.]

BOX (Wilts).—For alterations to Sunnyside, for Mr. D. G. Bingham. Mr. Harold Brakspear, F.S.A., architect, Corsham. Quantities by Messrs. Pinks & Watson, Parliament Mansions, Victoria-street, S.W.:—
Light & Smith..... £3,069 | H. Hoskings, Hungerford* £2,430
R. E. D. Rudman .. 2,870
Hayward & Wooster 2,543

BRADFORD (Wilts).—For the erection of new stable buildings at The Hall, for Mr. J. Moulton. Mr. Harold Brakspear, F.S.A., architect, Corsham. Quantities by Messrs. Pinks & Watson, Parliament Mansions, Victoria-street, S.W.:—
R. E. D. Rudman .. £2,127 | Hayward & Wooster,
E. Chancellor ..... 2,120 | Bath* £2,080

CANTERBURY.—For the erection of sanitary conveniences, Burgate-street, for the Corporation. Mr. A. C. Turley, C.E., Tudor Chambers, Canterbury:—
A. J. Brewster .. £298 0 | H. J. Smith, Stone-
C. Mount ..... 290 19 | street, Maid-
W. J. Adcock .... 290 0 | stone* £244 18

CHIPPENHAM (Wilts).—Accepted for erection of new residence, for Mr. Edwin Slade. Mr. Harold Brakspear, F.S.A., architect, Corsham. No competition:—
R. E. D. Rudman, Chippenham £1,993

CRUMLIN (Mon.).—For the erection of a house for Dr. Frost, Llanlulleth. Mr. R. L. Roberts, architect, Abercarn:—
M. Jenkins..... £689 0 | Davies Bros., Aber-
W. T. Morgan .... 612 10 | carn* £540 0
Ellis Williams 547 10

DEVIZES.—For alterations to Brownston House for the Misses Milman. Mr. Harold Brakspear, F.S.A., architect, Corsham. Quantities by Messrs. Pinks & Watson, Parliament Mansions, Victoria-street, S.W.:—
Hayward & Wooster £2,666 | R. Rudman, Chip-
Light & Smith..... 2,318 | penham* £2137
H. Hoskings 2,150

HATFIELD.—For the erection of new infirmary for women at the workhouse, for the Hatfield Union. Messrs. Chas. Smith & Son, architects, Reading:—

Stephens, Bastow, & Co., Ltd.	£2,801	0 0	Hardy Bros.	£2,252	0 0
Perry Bros. ..	2,650	0 0	Viney & Stone	2,214	0 0
Chas. Jackson	2,620	1 6	F. G. Minter	2,207	0 0
John Appleby	2,534	0 0	Maple & Co..	2,187	0 0
Gen. Builders, Ltd.	2,431	0 0	Norris & Son	2,180	0 0
Coulson & Lofts	2,415	0 0	Mussellwhite & Son	2,177	0 0
S. Redhouse, sen.	2,377	4 9	G. Jackson ..	2,167	0 0
W. M. Butcher	2,372	16 4	T. H. Coleman	2,146	0 0
Wm. Howard	2,345	15 0	Wm. Wade ..	2,130	0 0
Miskin & Sons	2,343	0 0	Ekins & Co...	2,103	0 0
Wm. French..	2,313	4 3	Wilkinson Bros.	2,096	0 0
Dupont & Co.	2,275	0 0	W. G. Dunham	2,066	10 0
Willmott & Sons	2,255	0 0	Sam. Worboys, Potter's Bar, Middlesex *	2,062	0 0

HAVERHILL (Suffolk).—For the erection of houses, offices, and stores, High-street, for Messrs. Greene, King, & Sons, Ltd. Mr. A. Ainsworth Hunt, architect, Sudbury. Quantities by Mr. E. Underwood, 3, Queen-street, Cheapside, London:—
Coulson & Lofts.... £2,086 | Mason & Sons, Ha-
Kerridge & Shaw .. 1,900 | verhill* £1,783
C. Runnacles 1,897

HULL.—For additions to schools, Chapman-street, for the Kingston-upon-Hull School Board. Messrs. Gelder & Kitchen, architects, Lowgate, Hull:—
lackburn & Son, Carlyle-street, Hull.... £3,785

ILFORD.—For the erection of dwelling-house and stabling, Ley-street, Ilford, for Mr. E. E. Wood. Mr. Horace E. Rossiter, architect, 61 and 62, Chancery-lane, London:—
W. Lloyd ..... £886 17 | Cole & Mundy* .. £879 0

ILFORD.—For the erection of dwelling-house, Auckland-road, Ilford, for Mr. J. Mumford. Mr. Horace E. Rossiter, architect, 61 and 62, Chancery-lane, London:—
J. Leggett ..... £640 | J. A. Bartram* £560
Cole & Mundy..... 570

ILFORD.—For alterations and additions to No. 8, Brisbane-road, for Dr. Albert Smith. Mr. Horace E. Rossiter, architect, 61 and 62, Chancery-lane, London:—
Cole & Mundy* £250

LONDON.—For a new block of workmen's dwellings in Northwold-road, Stoke Newington. Mr. R. Langton Cole, architect:—
Dore Bros. ..... £6,855 | Colls & Sons £6,647
Woodward & Co. .. 6,840 | Clarke & Bracey* .. 6,393
Lawrance & Sons .. 6,695

LONDON.—For the erection of a new police-court at Westminster, for the Metropolitan Police. Mr. J. Dixon Butler, Police Surveyor:—

	Credit. £	£
Foster & Dicksee	75	16,692
Lascelles & Co.	20	14,990
Willmott & Sons	—	14,000
Lathey Bros.	40	13,989
Leslie & Co.	20	13,960
H. Lovatt	100	13,650
Shark, Patrick & Son	—	13,490
Higgs & Hill	50	12,934
Holloway Bros.	40	12,950
T. Parker	—	12,885
Grover & Sons	55	12,795
H. J. Williams	—	12,500
C. Ansell	140	12,311
Lawrance & Sons	70	12,399
Ashby & Horner	40	12,060
F. F. H. Higgs	75	11,973

LONDON.—For the erection of a manager's house, 3, Mill-lane, Bromley-by-Bow, for Messrs. Kemball, Bishop, & Co., Ltd. Messrs. Wigg, Oliver, Hudson, & Co., architects, 80, Leman-street, E. Quantities by Messrs. Stanger & Son:—
G. E. Weston ..... £1,315 | Sparks & Sons..... £1,075
Snewin Bros. & Co. 1,189 | Lark & Son 1,074
Hawkey & Oldman 1,126 | F. & F. J. Wood .. 1,000
J. & H. Cocks..... 1,099 | Johnson & Son..... 997
Chapen & Newman 1,098 | Shurmer & Son 994
Oulthwaite & Co... 1,097 | Wilkinson Bros. 927

LONDON.—For the erection of new offices and caretaker's lodge, 3, Mill-lane, Bromley-by-Bow, E., for Messrs. Kemball, Bishop, & Co., Ltd. Messrs. Wigg, Oliver, Hudson, & Co., architects, 80, Leman-street, E. Quantities by Messrs. Stanger & Son:—
G. E. Weston ..... £2,471 | Snewin Bros & Co. £2,193
J. & H. Cocks..... 2,382 | Lark 2,190
Chafen & Newman.. 2,346 | F. & F. J. Wood .. 2,190
Hawkey & Oldman 2,320 | Wilkinson Bros. 2,000
Outhwaite & Co. .. 2,267 | Shurmer & Co. 1,995
Sparks ..... 2,250 | Johnson & Sons 1,990

[*See also next page.*

MERTON PARK (Surrey).—For a small house in Dorset-road. Mr. H. G. Quartermain, architect, Merton :—

Burgess & Sons, builders, Wycliffe-road, Wimbledon*..... £985

NATLAND (Westmorland).—For the execution of waterworks for the South Westmorland Rural District Council. Mr. Wm. Harrison, engineer, 1, Hind-street, Preston :—

Tank and Pipelaying.

William Carradice, Fellside, Kendal..... £344

Irregular Casings.

Blakeboro, Brighouse, Yorkshire 24

PAIGNTON (Devon).—For execution of Waterworks, &c. (Contract No. 2), for the Urban District Council. Mr. Fred. Wm. Vanstone, engineer, Paignton. Quantities by engineer :—

Gill & West..	£58,245 5 9	Jones & Sons	£39,018 7 1
A. N. Coles	55,399 0 0	J. Dickson Dunsford ..	38,286 19 8
S. Saunders ..	45,645 0 0	J. H. Vickers	37,428 7 9
W.C.Shaddock	45,280 1 0	J. C. Lang ..	37,404 11 1
C. T. Perkins	45,074 17 0	Pethic Bros...	37,363 0 0
A. Jenkins ..	42,334 15 8	Cooke & Co...	37,107 14 7
Westminster Construction Co.	41,196 0 0	Hawking & Best	34,971 11 0
E. R. Lester ..	40,498 0 0	C. Brealy	34,905 0 0
Stephens & Son	39,742 0 0	Dart & Pollard	33,950 14 9
J. & F. Binns	39,232 5 4	Gresenthwaite & Newton, Carlisle* .	33,327 0 0

PARSLOES PARK (Dagenham).—For the erection of twenty loose boxes, and alteration and additions to stand and enclosures, for the Essex Amateur Trotting Club. Mr. J. M. H. Gladwell, architect, Boston House, 63 and 64, New Broad-street, E.C. :—

W. Cooper, Ltd. ..	£834 0	F. Smith & Co.....	£605 0
A. E. Symes	645 10	Croggon & Co. (stabling only) ..	437 10
C. G. Finegan	613 10		

PENARTH (Wales).—For the erection of a hospital for infectious diseases, Llandough, for the Urban District Council. Mr. E. T. Evans, C.E., Arcade-buildings, Penarth :—

Contract No. 1.

Beames & Nephew ..	£2,262 14 7	B. T. Pomeroy	£1,733 2 5
J. Allen.....	2,108 4 7	D. G. Price ..	1,690 0 4
Evans & Bros.	1,917 17 9	J. Prout.....	1,634 11 0
Jones & Sons	1,875 0 0	W. Britton ..	1,572 8 4
T. Rees.....	1,851 17 10	Lloyd & Tape	1,521 11 5
J. E. Evans ..	1,769 7 11	T. Bevan, Albert-road, Penarth* ..	1,443 0 0

Contract No. 2.

J. E. Evans..	£6,000 0 0	J. Prout.....	5,285 0 0
J. Blight	5,984 18 2	W. Britton ..	5,123 6 3
J. Bickford ..	5,752 10 6	Thomas & Son.....	5,103 0 0
Beames & Nephew....	5,522 13 4	D. G. Price ..	5,091 2 1
J. Allen.....	5,516 3 6	T. Bevan, Albert-road, Penarth* ..	4,927 12 0
Jones & Sons	5,309 10 0	Lloyd & Tape	4,779 14 7
Evans & Bros.	5,308 18 8		

PURLEIGH (Essex).—For the erection of a bridge for the County Council. Mr. P. J. Sheldon, C.E., County Offices, Duke-street, Chelmsford :—

J. Rayner	£771 16	Smith & Son	£573 0
S. Parmenter.....	579 0		

SNARESBROOK (Essex).—For alterations to the Cuckfield Hotel, for Mr. F. D. Wymer. Mr. J. M. H. Gladwell, architect, Boston House, 63 and 64, New Broad-street, E.C. :—

Evans, Jones, & Co. £537

STONEHAVEN, N.B.—For the reconstruction of the parish church, Dunnottar. Mr. Y. P. K. Young, architect, 42, Tay-street, Perth :—

Masonry.—Smith & Co., Stonehaven, N.B.	£1,124	4	10
Joinery.—Thomson & Sons, Stonehaven, N.B.	990	0	0
Plumbing.—E. Pithie, Stonehaven, N.B. ..	75	13	7
Plastering.—J. Valentine, Stonehaven. N.B.	110	1	6
Slating.—R. Burness, Stonehaven, N.B. ..	90	0	0
Glazing.—Mason & Son, Aberdeen	48	9	

WOLVERHAMPTON.—For the execution of street works, Upper Villiers-street, &c., for the Corporation. Mr. George Green, Borough Engineer, Town Hall, Wolverhampton :—

Jas. Owens ..	£1,609 3 10	H. Holloway, Wolverhampton*	£1,527 13 1
W. H. Reading	1,552 10 3		

WREXHAM.—For the erection of depôt premises, for the Town Council :—

Lewis Bros.....	£635 15 6	W. Hughes	£450 0 0
Davies Bros. ..	512 18 0	G. Cathrall*....	402 0 0

[All of Wrexham.]

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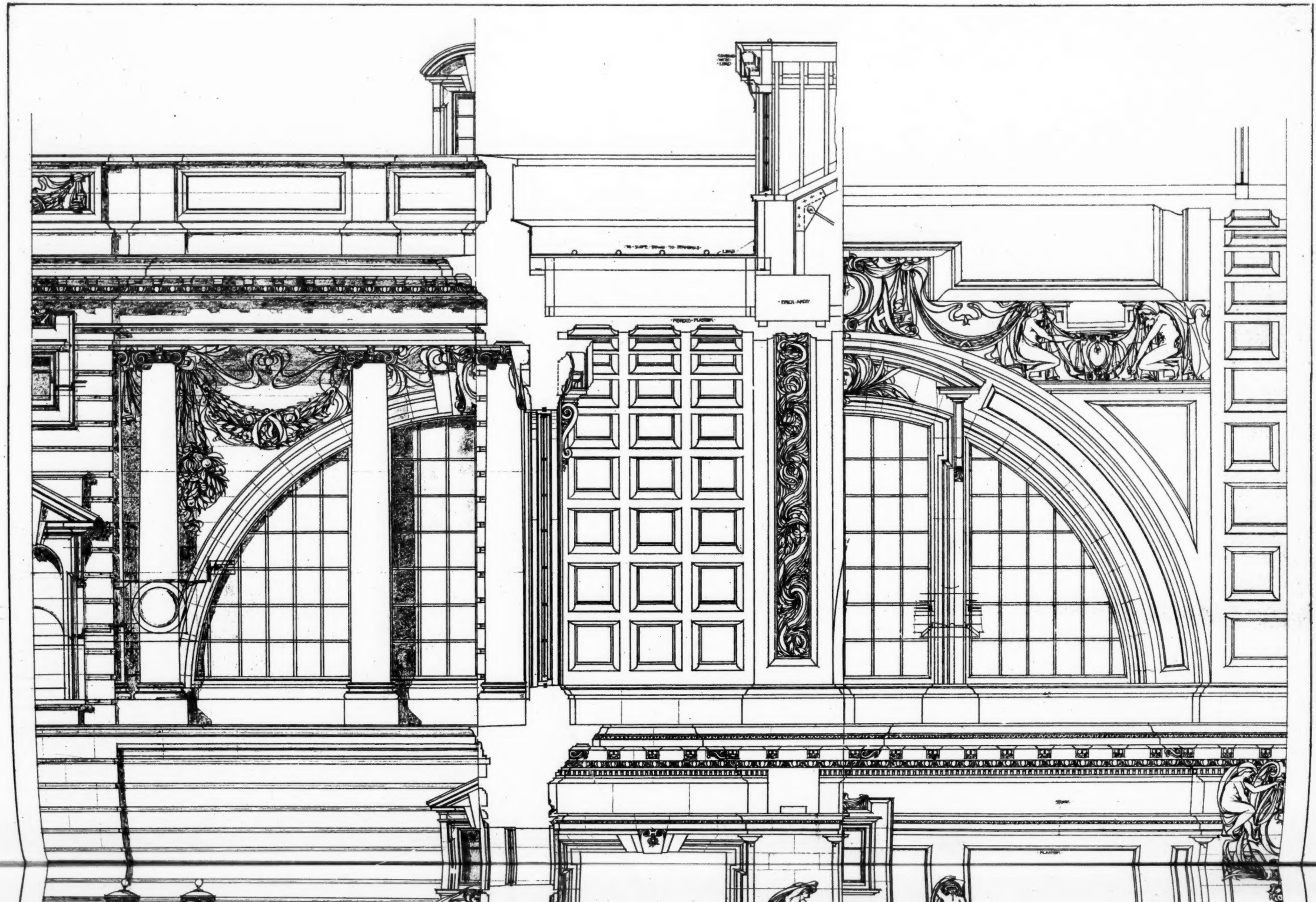

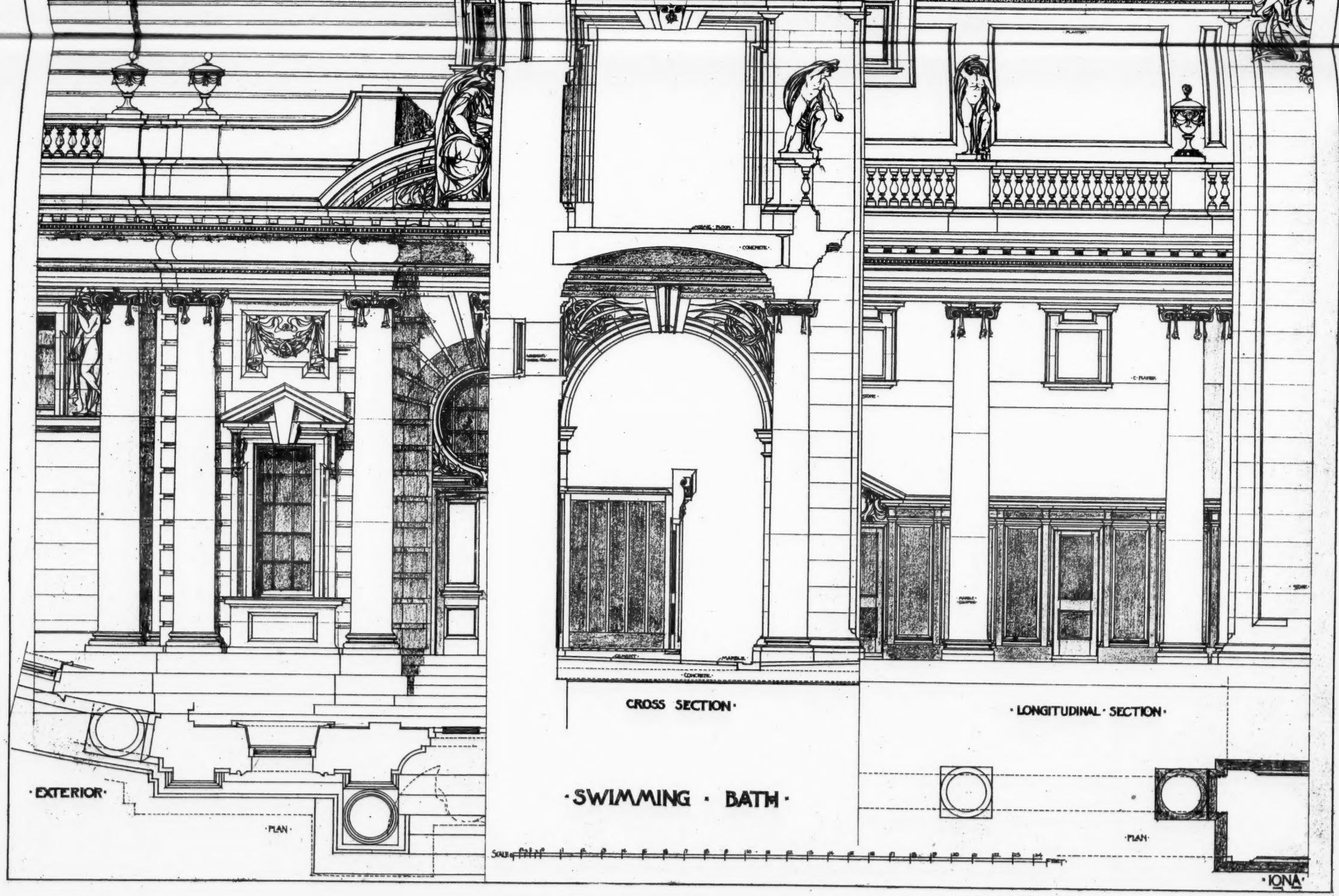

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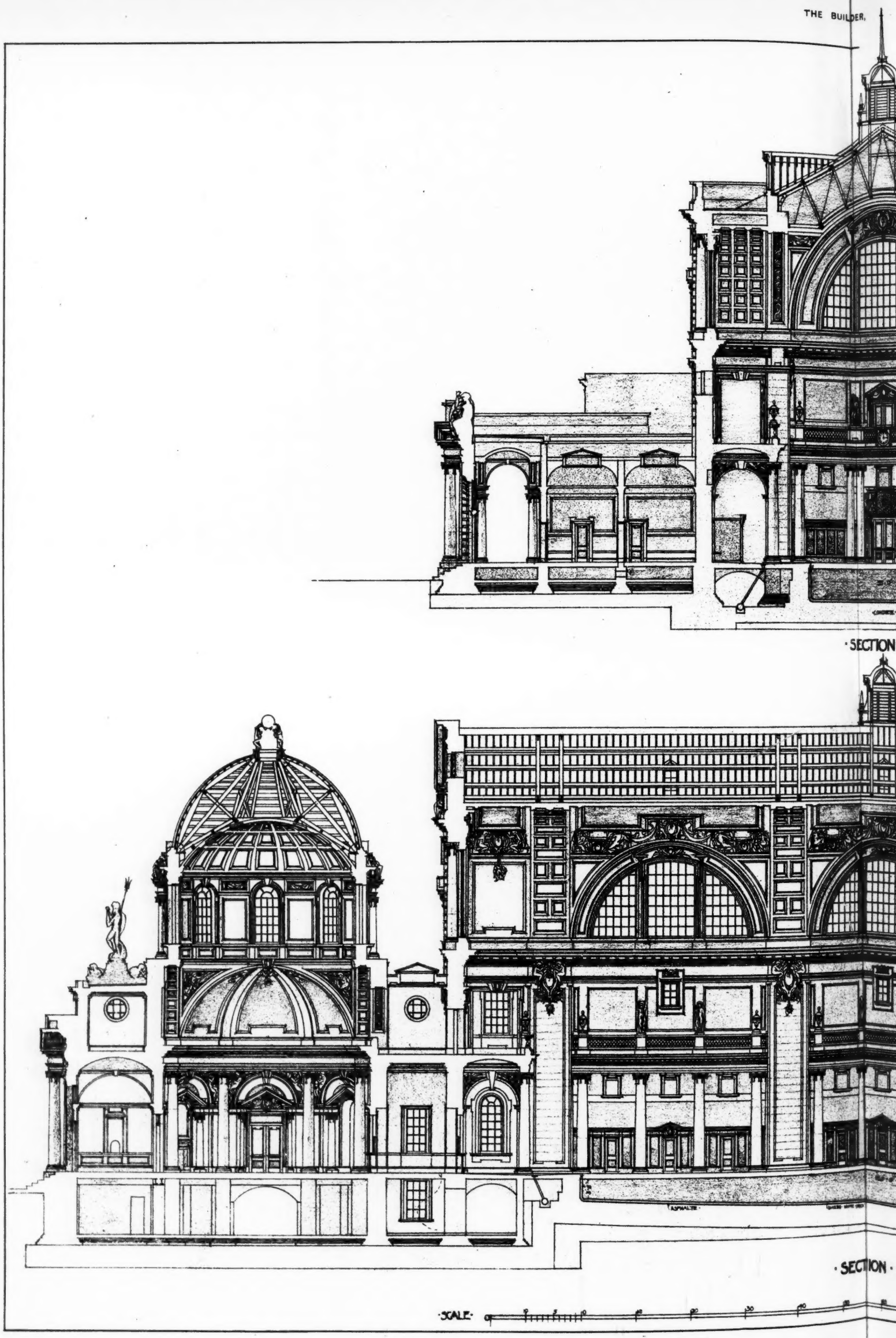

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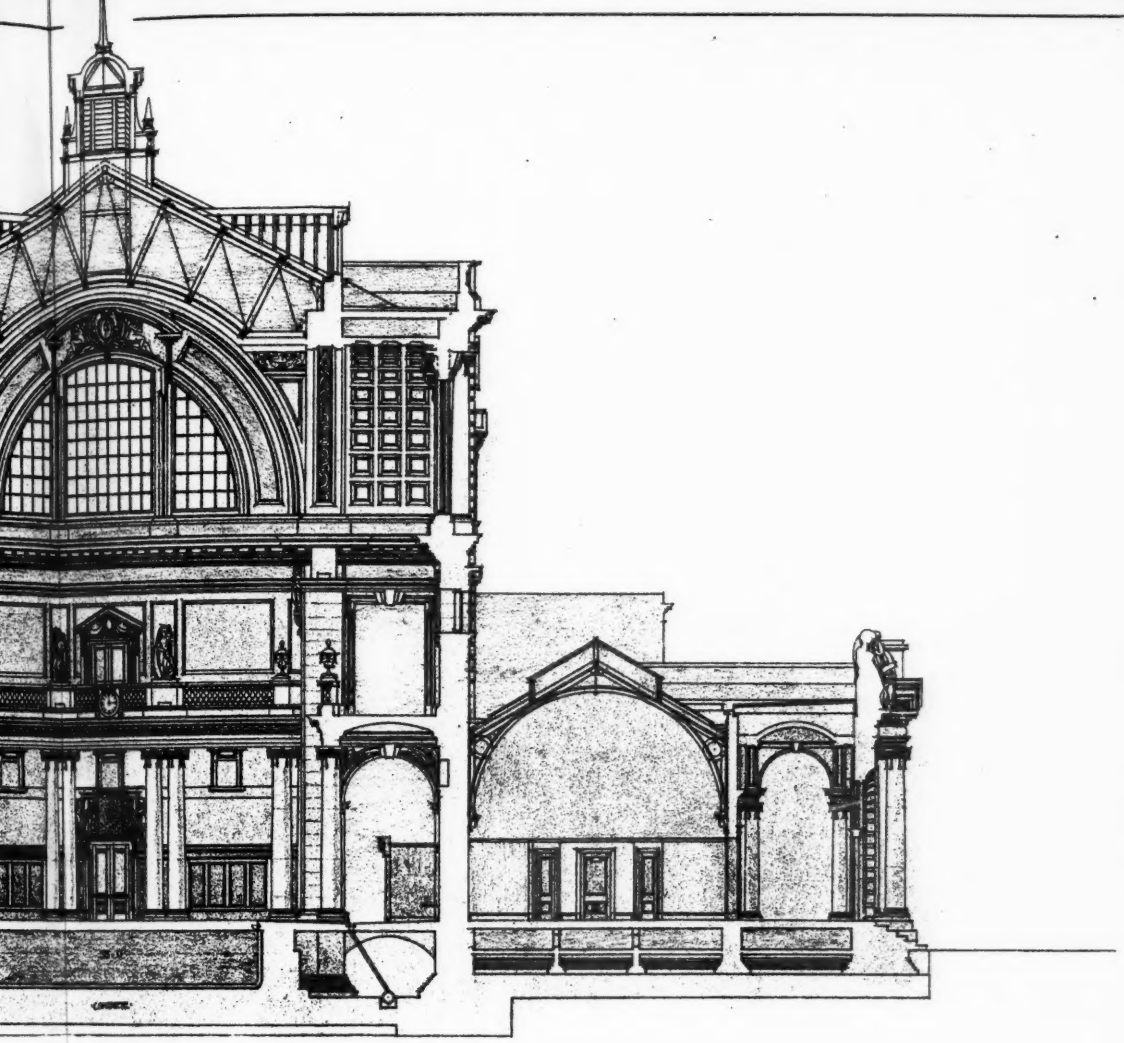

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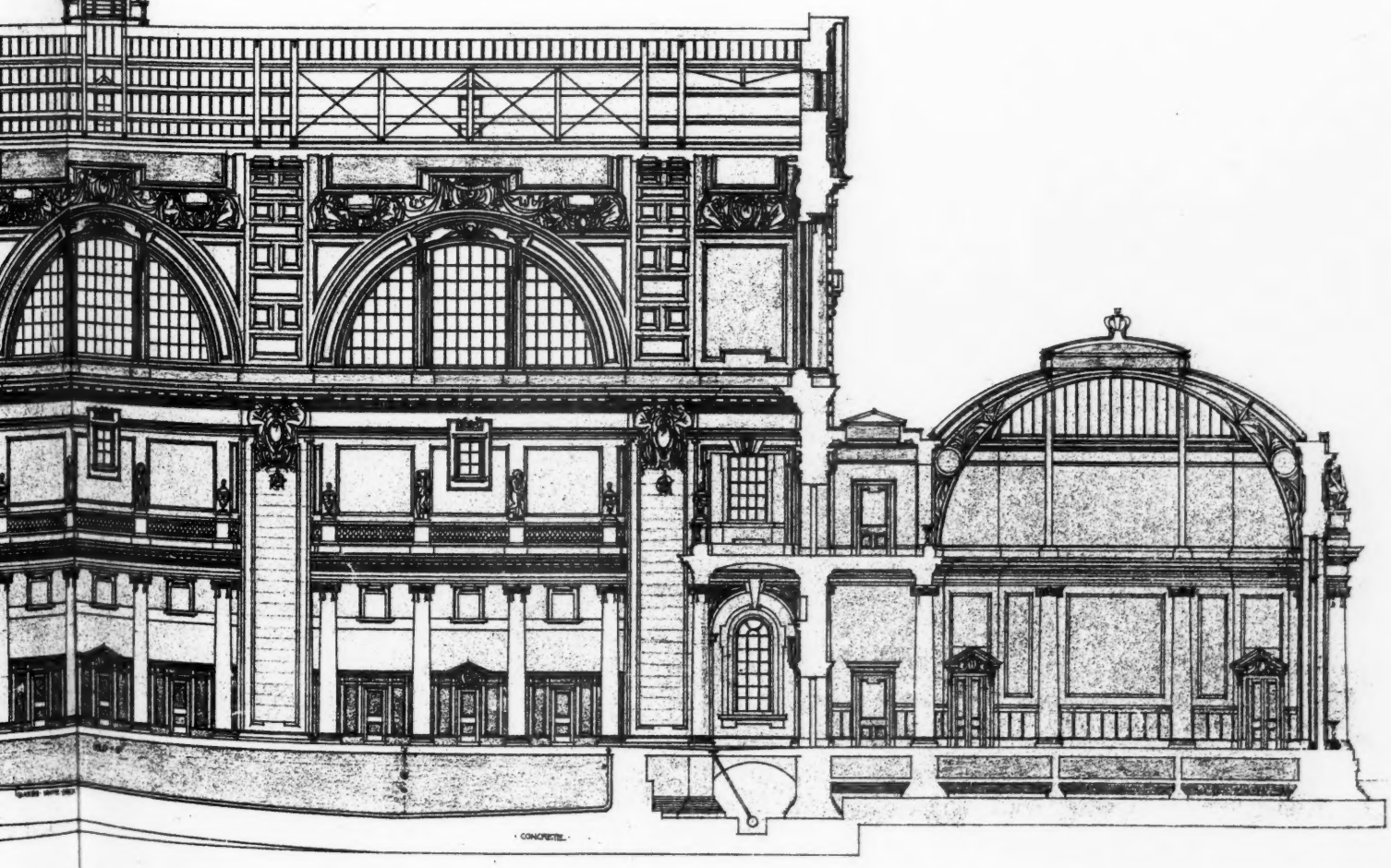

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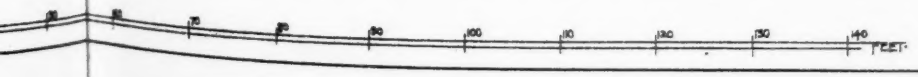

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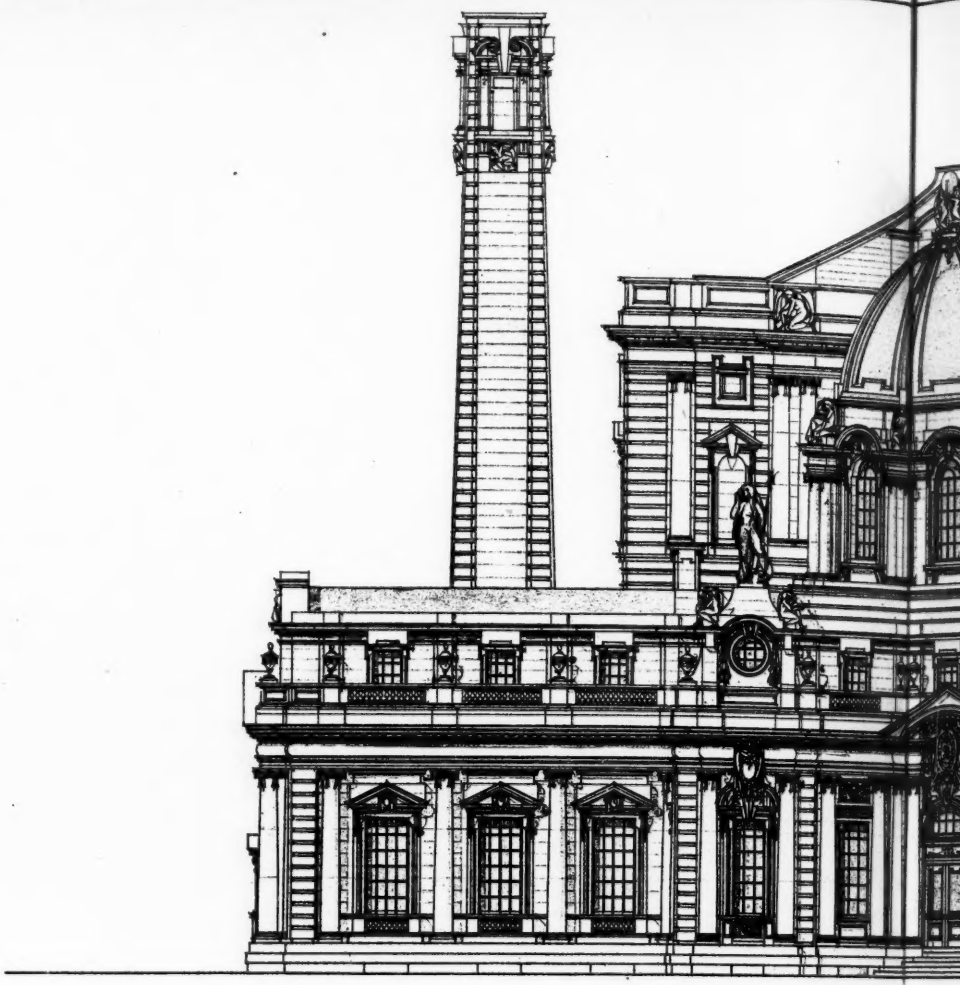

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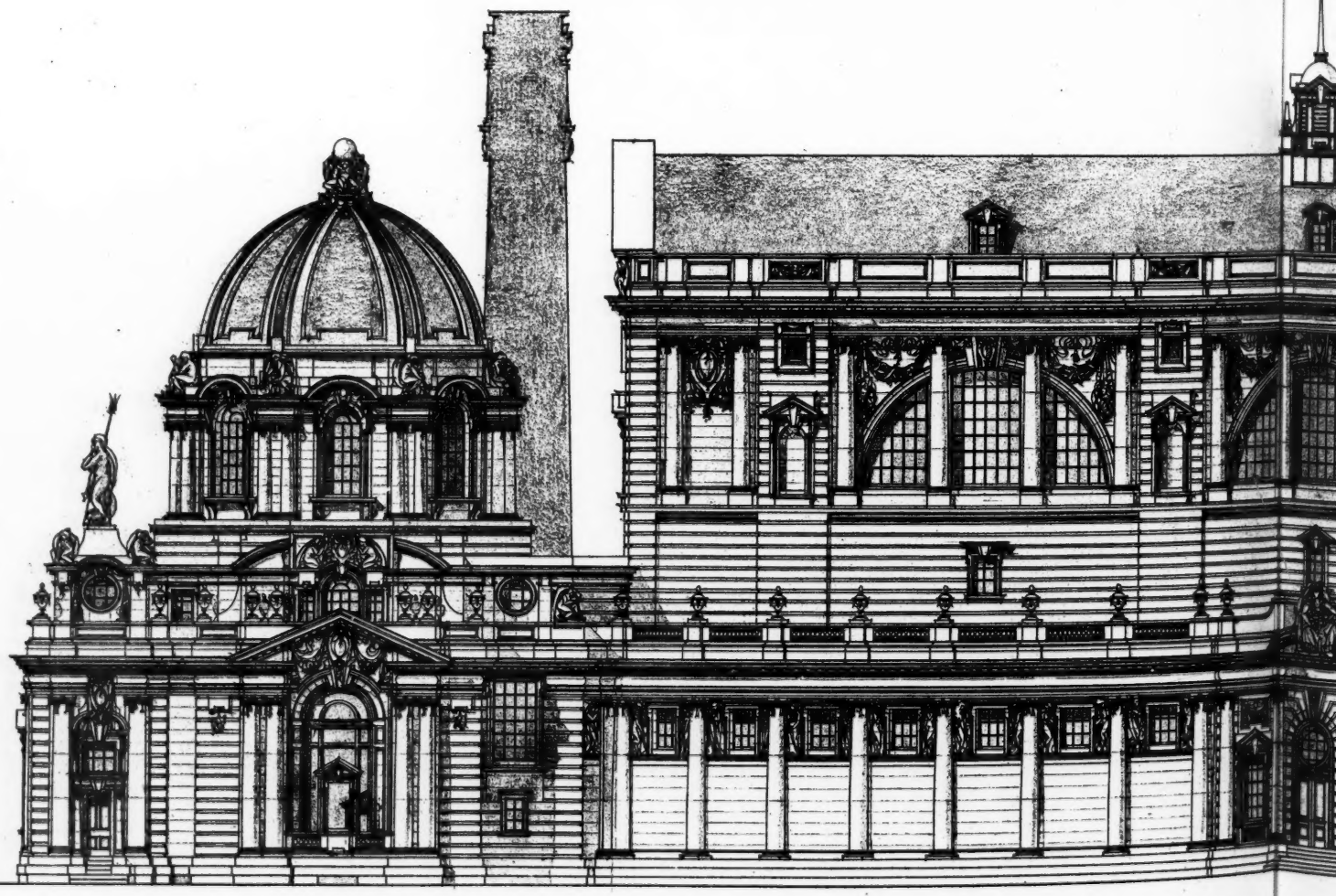

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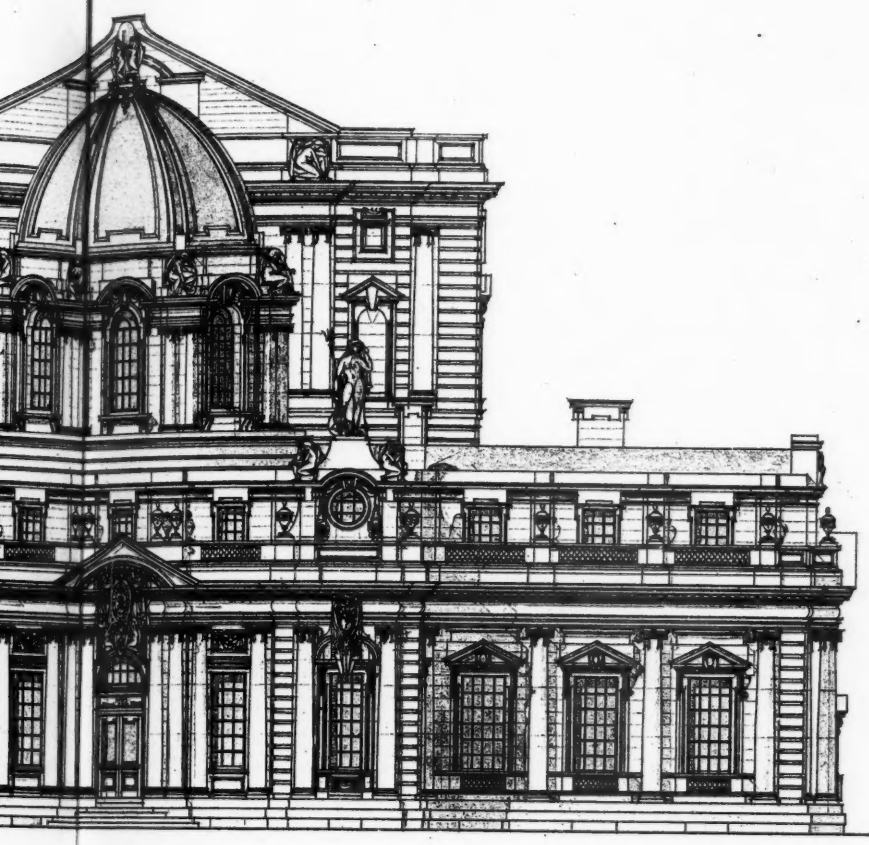

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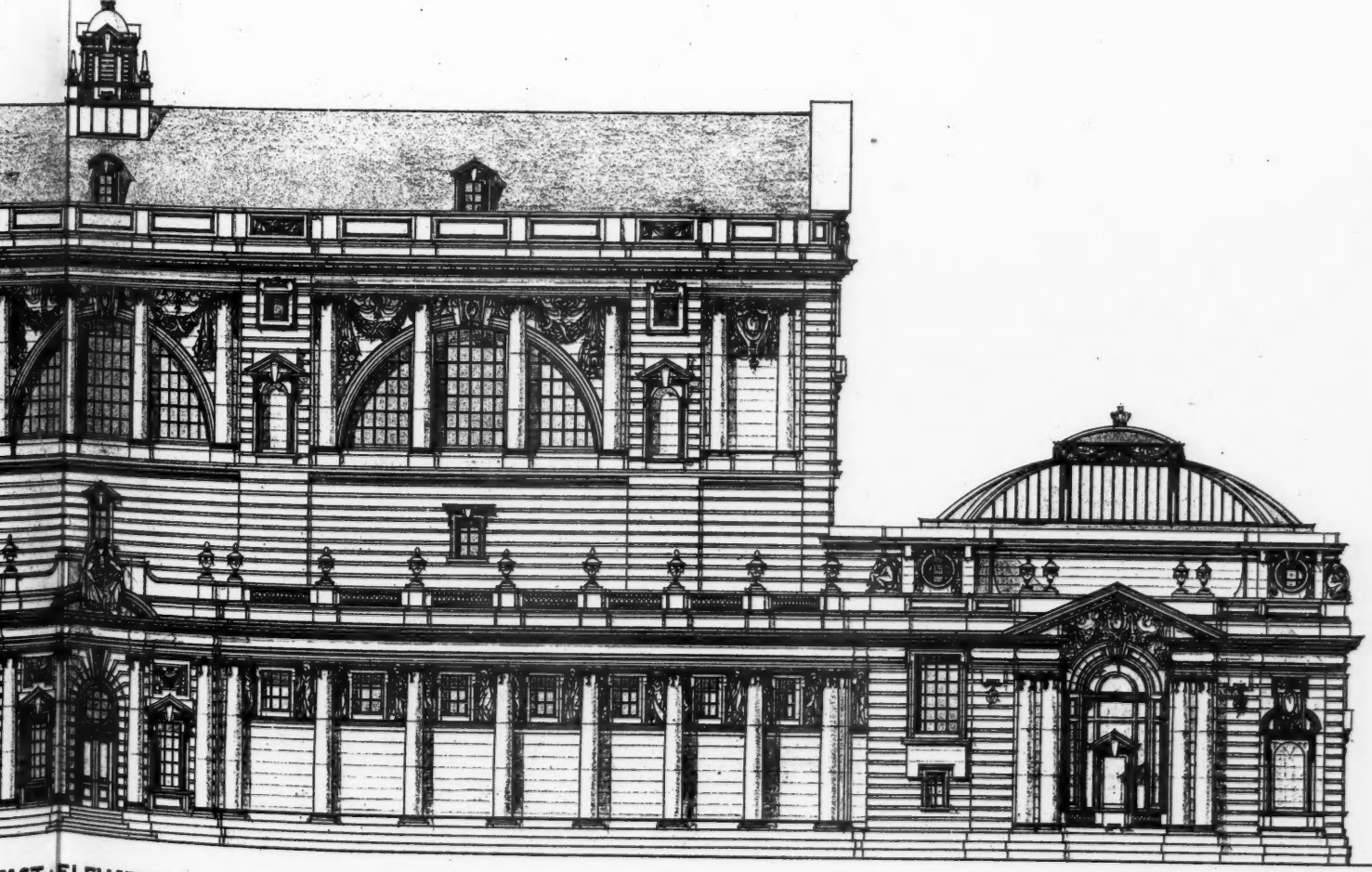

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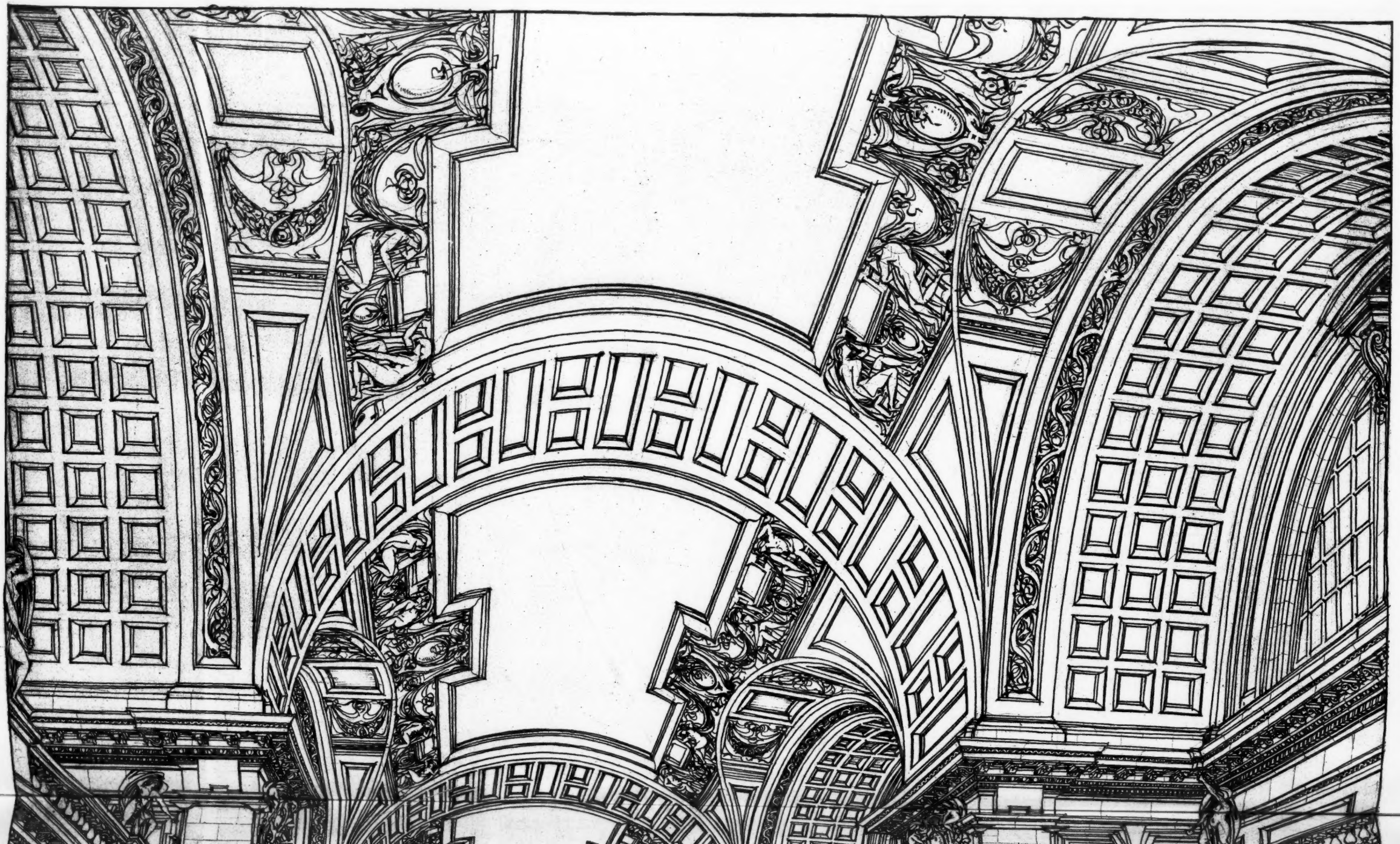

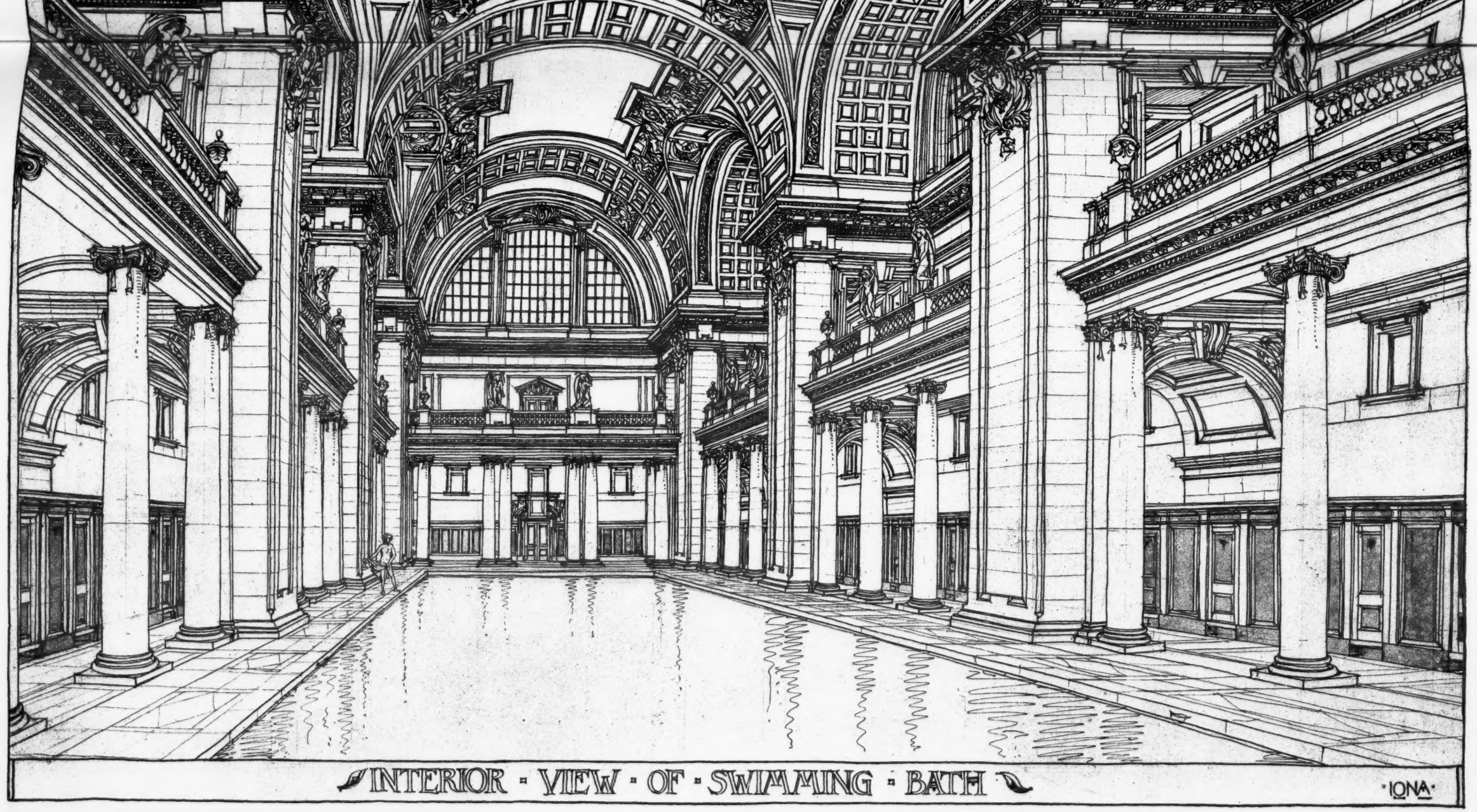

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